

The Mini-Manual for the Urban Defender



Version 5.1 (January 15, 2023)

By John Spencer

About the author

John Spencer is an award-winning scholar, professor, author, combat veteran, and internationally recognized expert and advisor on urban warfare, military strategy, tactics, and other military related topics. Considered one of the world's leading expert on urban warfare, he served as an advisor to the top four-star general and other senior leaders in the U.S. Army as part of strategic research groups from the Pentagon to the United States Military Academy.

Spencer currently serves as the Chair of Urban Warfare Studies with the Madison Policy Forum. He recently served as the Chair of Urban Warfare Studies at the Modern War Institute at West Point, Co-Director of the Urban Warfare Project, and host of the Urban Warfare Project podcast. He also served as a Colonel in the California State Guard with assignment to the 40th Infantry Division, California Army National Guard as the Director of Urban Warfare Training.

Serving over twenty-five years in the active United States Army as an infantry soldier, Spencer has held ranks from Private to Sergeant First Class and Second Lieutenant to Major. His assignments as an Army officer included two urban-centric combat deployments to Iraq as both an Infantry Platoon Leader and Company Commander, a Ranger Instructor with the Army's elite Ranger School, a member of the Joint Chief of Staff and Army Staff, military advisor on the Chief of Staff of the Army's Strategic Studies Group, and Co-Founder, Strategic Planner, and Deputy Director of the Modern War Institute at the United States Military Academy, West Point, New York where he also taught a broad range of subjects from military tactics to strategy.

He is the author of the books *Connected Soldiers: Life, Leadership, and Social Connections in Modern War* and *Understanding Urban Warfare*.

He can be found at www.johnspenceronline.com and most social media platforms.

Who This Manual Is For

This mini-manual is for any person fighting for freedom, self-determination, liberty, equal human rights, and democracy. It is for fighters that will fight a just war both in cause and execution.

It is not for anyone attempting to subjugate another, nor to support fascism, tyranny, conquest, imperialism, or dictatorship. It is not for fighters that commit war crimes, crimes against humanity, or genocide.

Table of Contents

Spencer's Standing Orders (for the Urban Defender)	4
Why Defend?	5
The Will to Fight	6
Form Into Groups	7
8 Rules of Attacking a City	8
7 Elements of Any Defense	9
General Information	10
Protection and safety	14
Close the Castle Gates	20
Obstacles	29
Reporting on the Attacker	41
Weapons	44
Attack, attack, attack	58
Tanks and vehicles	73
Attacking Aircraft and Drones	78
The Ambush	82
Casualty and Fighter Care	91
Drink and Purifying Water	107
Sanitation and Hygiene	110
Law of War	113
Protecting Civilians	115
Treatment of Prisoners of War	117
Unexploded Ordnance (UXO)	118
Winter clothing tips	119 ³

Spencer's Standing Orders (for the Urban Defender)

- 1. The defense is the strongest form of war. The attacker must come to you and you must be in prepared positions. He must cross the open street to attack you. Kill him in the streets and alleyways.**
- 2. Never stop preparing the defense. Even when you are fighting you should be continuing to improve your positions.**
- 3. Make the attacker go where you want, not where he wants. Build barriers as high as you can. Block all streets, alleyways, doors, and windows. Turn the city into a fortress of walls that make the enemy enter your prepared traps.**
- 4. Use concrete. It is your greatest defensive resource. Do not use wood and sandbags, they are weak. Concrete reinforced by steel bars (rebar) is one of the strongest materials. Build barriers and fighting positions out of it.**
- 5. Always hide yourself, your position, your weapons. Always believe the enemy can see you from above. If he can see you, he can strike you with missiles, bombs, and mortars. If you are always hiding, moving inside buildings, and/or under tarps between buildings, the enemy will not be able to strike you.**
- 6. Use any and all underground facilities. If there are none beneath you, start digging. The attacker will bomb you before assaulting. You can use the underground to hide, escape, protect yourselves, store supplies, move, and counterattack.**
- 7. Surprise is everything. The attacker cannot see through concrete. You decide when and where the fighting will occur. The enemy fears urban snipers deeply. Make him think every window holds a sniper.**
- 8. Fight in groups. One fighter is not enough. Fight in a minimum of 3-5 person teams.**
- 9. Always attack from a protected and hidden position. It does not matter if you are throwing something or shooting something; do so from inside a building, from high or low floors, behind piles of rubble, or popping up from the underground.**
- 10. Always have an escape plan after attacking. Put holes in walls, floors, and ceilings so you can run between rooms and buildings when the enemy bombs are falling, or if they are too close to you. Dig tunnels under buildings and houses as escape venues. Make lots of different interlocking attack positions. Pre-position supplies everywhere: ammo, grenades, rocket-propelled grenades, water, etc.**
- 11. Do not get surprised. The enemy fears urban warfare. He will attempt to sneak past your defenses. Never have more than 2/3s of your fighters asleep.**
- 12. Drink water. You cannot fight if you are dead. You can survive only 3 days without water, but 3 weeks without food. Purify any water (boil it, add bleach or iodine). If your pee is clear nothing to fear; yellow or brown you are going down.**
- 13. Wash your hands before eating. Disease can kill you more than enemy bullets. When you eat and drink ensure that your latrines are more than 100 meters away. Do not let flies touch your food.**
- 14. You must follow the laws of war. You must wear markings to identify you as fighters. No matter the enemy's tactics, you must follow the laws of war to include handling of captured enemy fighters.**

Why Defend?

Urban defenders act to protect their families, fellow defenders, community, nation, and their freedom.

The urban defender may need to remind themselves and others, why they fight, why they are defending.

Militarily, the reason to defend may be simply to buy time; or to stop or slow an invading military force.

Time is essential to the attacker: the more time it takes, the more difficult it is for the invading military, the more their supplies will run out, the more their soldiers get separated and attack, the more likely they will fail.

By buying time, other forces may be able to come destroy the enemy, more supplies can be brought to the defenders, or more international parties can get involved.

The Will to Fight

"The moral is to the physical as three is to one."

– Napoleon Bonaparte

The superpower of the urban defenders is their fighting spirit - their will to fight.

Urban defenders fight for their nation, their freedom, their families, and each other.

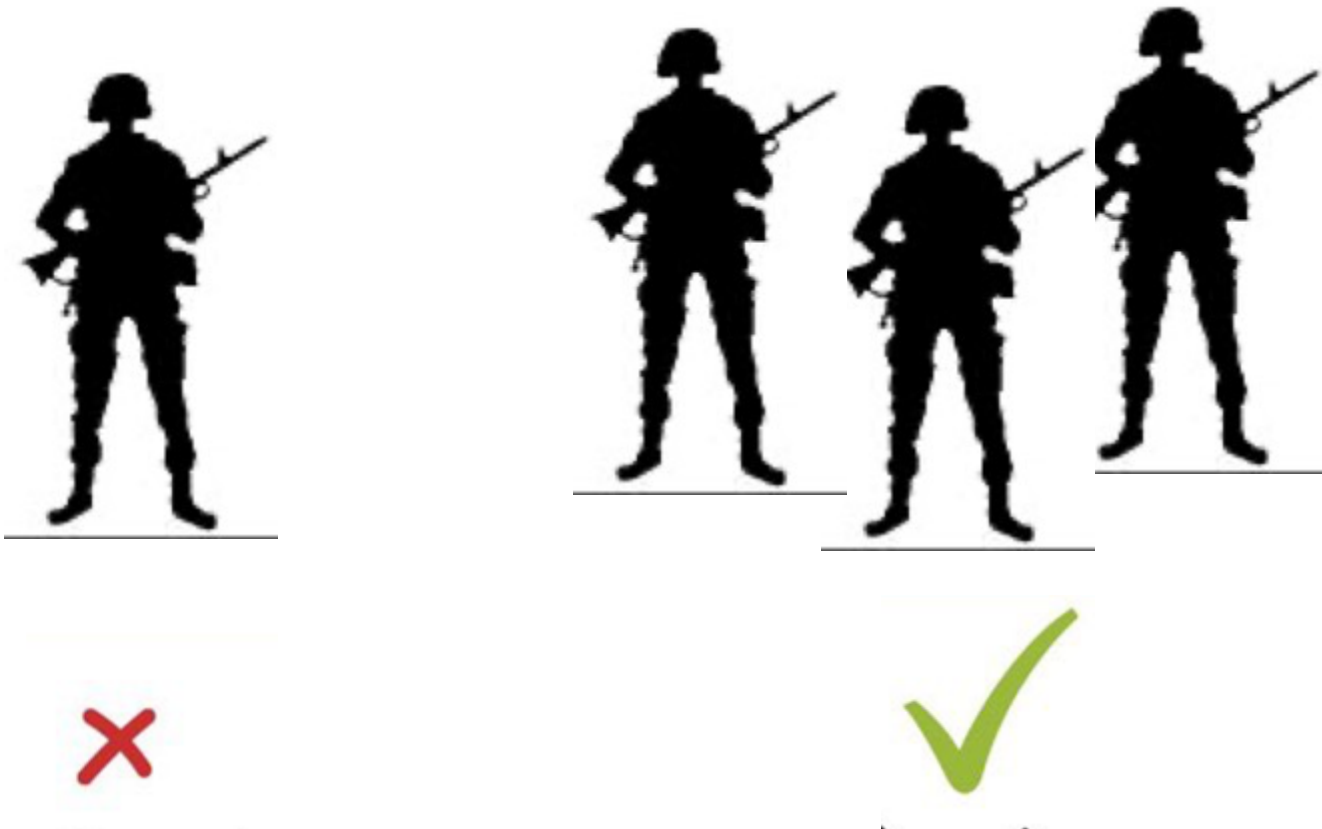
Urban defenders must believe that they can win and prevail. They have the advantage in the urban terrain.

Do not let fear overcome you. Everyone experiences fear in combat. Courage is continuing to fight while feeling fear.

The urban defender should seek to put crippling fear into the attacker, make him lose the will to fight.

Form Into Groups

Form into groups. One defender can be strong. But many defenders are unbreakable.



Forming into groups is how to overcome fear, depression, and other emotions. Each member of group fights for each other and the group as a whole.

8 Rules of Attacking a City

There are rules that restrain a military force attacking a city. A smart defender plans to maximize and use each rule against the attacker. The rules are:

- 1. The urban defender has the advantage.** It takes much more force to attack and defeat an enemy that is in an established and properly constructed defense than one in the open.
- 2. The urban terrain reduces the attacker's advantages in intelligence, surveillance, and reconnaissance, the utility of aerial assets, and the attacker's ability to engage at distance.**
- 3. The defender can see and engage the attacker, because the attacker has limited cover and concealment.** The biggest tactical advantage for the defending force is that it can remain hidden inside and under buildings.
- 4. Buildings serve as fortified bunkers that must be negotiated.** Cities are full of structures that are ideal for military defense purposes. Large government, office, or industrial buildings are often made of thick, steel-reinforced concrete that make them nearly impervious to many military weapons.
- 5. Attackers must use explosive force to penetrate buildings.** The primary current methods of attacking an urban fortification are to either destroy it or prepare the building with explosive munitions and then send infantry in to enter and clear the entire building if necessary.
- 6. The defender maintains relative freedom of maneuver within the urban terrain.** They can prepare the terrain to facilitate their movement to wherever the battle requires. They can connect battle positions with routes through and under buildings. They can construct obstacles to lure attackers unknowingly into elaborate ambushes because of the limited main avenues of approach in many dense urban environments.
- 7. The underground serves as the defender's refuge.** Defenders can use existing tunnels or dig their own to connect fighting positions, hide from detection, and provide cover from aerial strikes, and even employ them offensively as tunnel bombs against a stationary military forces.
- 8. Neither the attacker nor the defender can concentrate their forces against the other.** A defense established in dense urban terrain constrains both the rapid movement and the ability to concentrate formations against decisive points.

7 Elements of Any Defense

These seven elements of the defense apply to any defense no matter the scale or environment. In the urban defense the defender must always think about how the urban terrain can be shaped and used to allow defenders to do what they want to do while stopping the enemy from doing what they want to do. The seven main elements are:

- **Preparation** – As soon as the urban defender decides to fight, they must start to plan and shape the urban area to their plans. The urban defender never stops preparing. Even when they are fighting, they can have some fighters shooting while others are continuing to build obstacles, positions, and more.
- **Flexibility** – The entire defense must have flexibility to change to the attacker's actions. This is important for the entire defense of a city down to a single block.
- **Security** – Defenders must ensure all sides of the city are safe. All fighting positions require more than one person.
- **Operations in depth** – Be able to kill the enemy out as far away as possible and in belts or rings around the center of the city going out as far as possible.
- **Disruption** – Use the city to break apart the attacker's formations, convoys, separate tanks from infantry.
- **Maneuver** – Use both fires (rifles, machine gun, mortars, artillery, rockets) and fast-moving defenders
- **Mass and concentration** – Be ready to surge large groups of defending fighters against the attackers at critical moments.

General Information

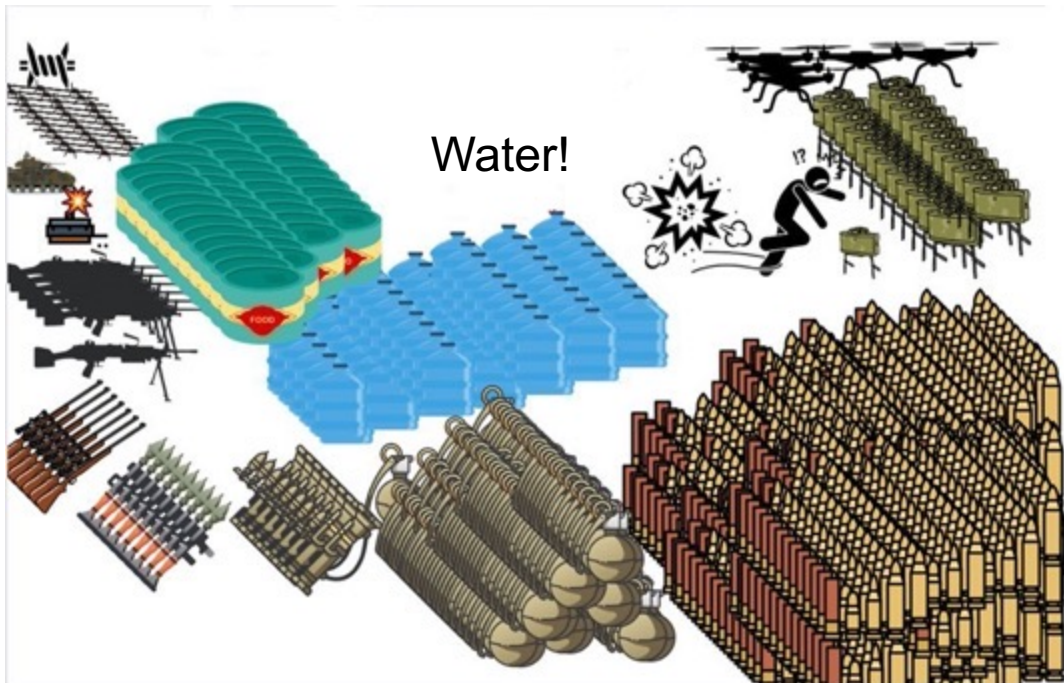
Gather Supplies

Urban warfare, to include defending, requires four times the amount ammunition as the same operation in rural terrain.

To be able to defend the urban defender must gather as many supplies as possible before the enemy arrives. The more supplies, the longer the defenders can survive.

On top of anti-tank missiles (ATGMs) like NLAWs, Javelins, and RPGs, defenders need a lot of rifle bullets, grenades, anti-tank mines, anti-personnel mines, disposable drones, mortars and mortar rounds, water, non-perishable foods, fuels (cooking/vehicle/generator), and tourniquets/medical supplies.

What does a defender need?



Very Important

1. Rifles
2. Anti-Tank-Weapons (RPG, NLAW, Javelin)
3. Ammunition (a lot)
4. Grenades (many)
5. Water (a lot)
6. Ready-Food
7. Medical supplies

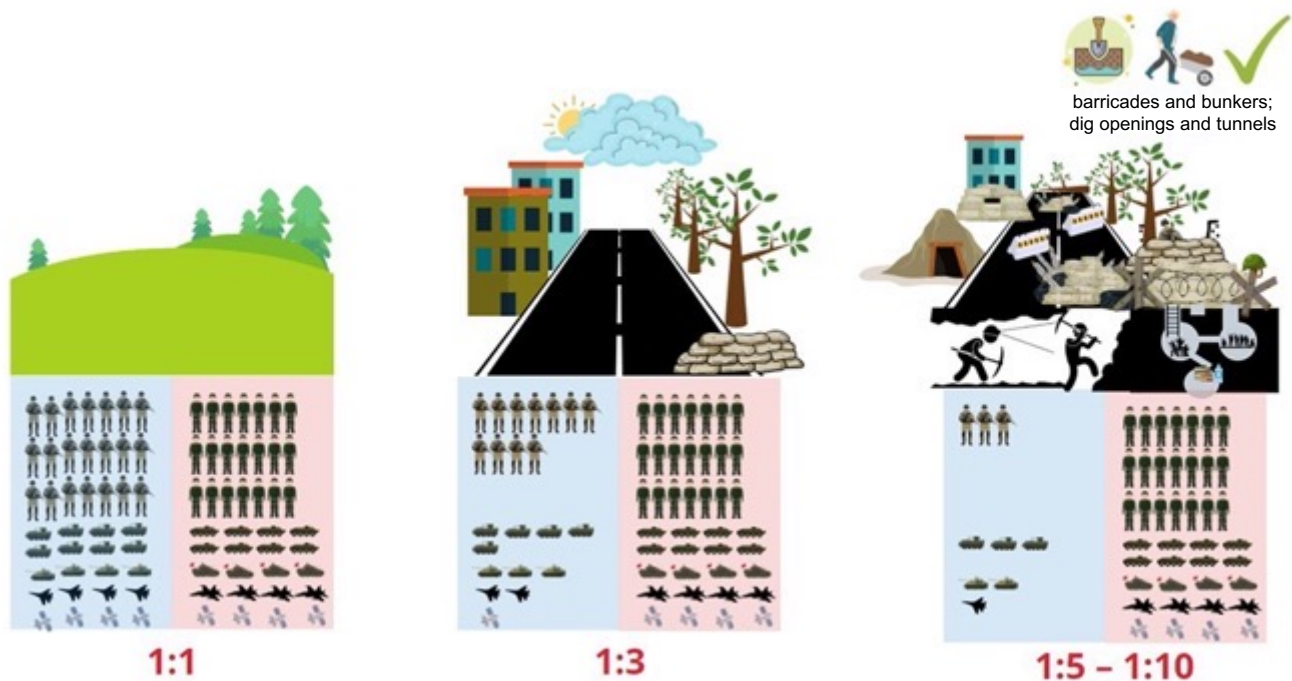
Important

1. Anti-Aircraft (Stingers)
2. Mines (Claymore)
3. Sniper Rifles
4. Anti-Tank Mines
5. Fuel
6. Drones

You Have the Numbers & Advantage

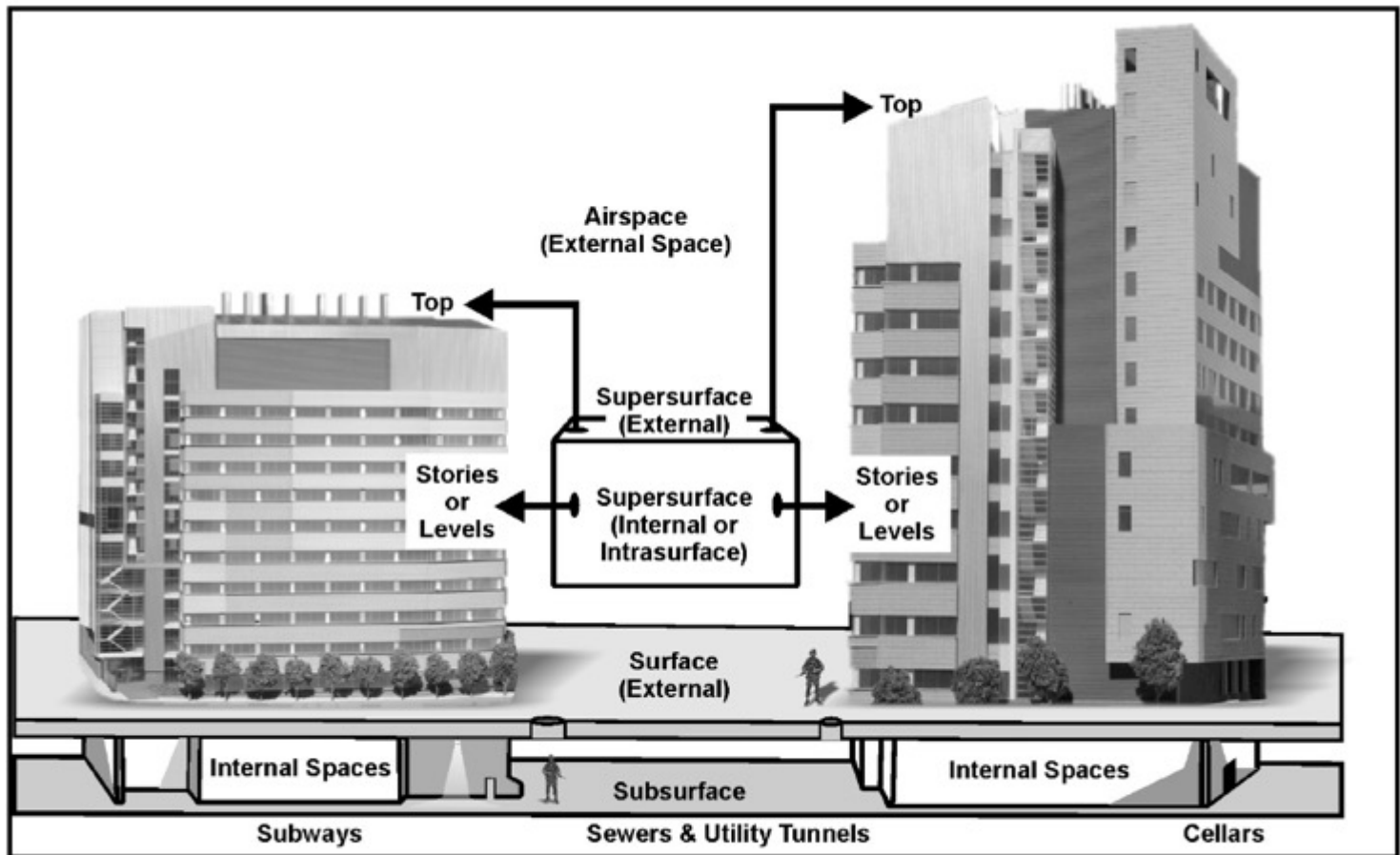
Prepared urban defenders have the advantage. In 2016-2017, it took over 100,000 security forces 9 months to take Mosul against 5,000 to 10,000 ISIS defenders. The Germans employed tens of thousands of soldiers to try and take Stalingrad, and they were unsuccessful. Military doctrine says the attacker needs 3 to 5 times more than he would during an attack in woods or open terrain. The enemy could need as much as 5, if not more, attacking soldiers to 1 defending soldier/fighter.

A few prepared defenders can hold against a lot of attackers in a city



The Urban Defender Uses Everything

The urban defender understands the urban environment. It is theirs. The urban terrain is the source of their power. They maximize every dimension. The narrow streets, high buildings, concrete, elevations, basements, tunnels, there are millions of hiding and attacking spaces.



Introduction Figure-1. Multidimensional urban environment

Protection and Safety

You cannot fight if you are dead.

Shape the urban area to provide you with the most protection and safety as possible so you can fight the enemy when he comes.

There will be three phases to the enemy's attack.

The urban defender must be prepared to survive all three phases.

Phase 1 of an Enemy Attack

The first phase of the enemy to attack a city will be bombing of any known enemy positions (buildings/places seen from the sky or already known) to soften the defense of the city and demoralize the defending force in the city. In this phase, all efforts to hide your key locations and fighting positions must be taken. Defenders must know where to escape the bombings (strong buildings, underground) and where to re-emerge ready to fight: this is essential.



Phase 2 of an Enemy Attack

The next phase, as the attacker gets closer to the city, will begin heavy bombardment on all urban structures, with the hope that the defenders will surrender. This could last days and weeks. This is where the underground is critical to survive while maintaining weapons and supplies. Defenders must stay aware of the enemy's location, when they are moving towards the city, and when they are getting close.



Phase 3 of an Enemy Attack

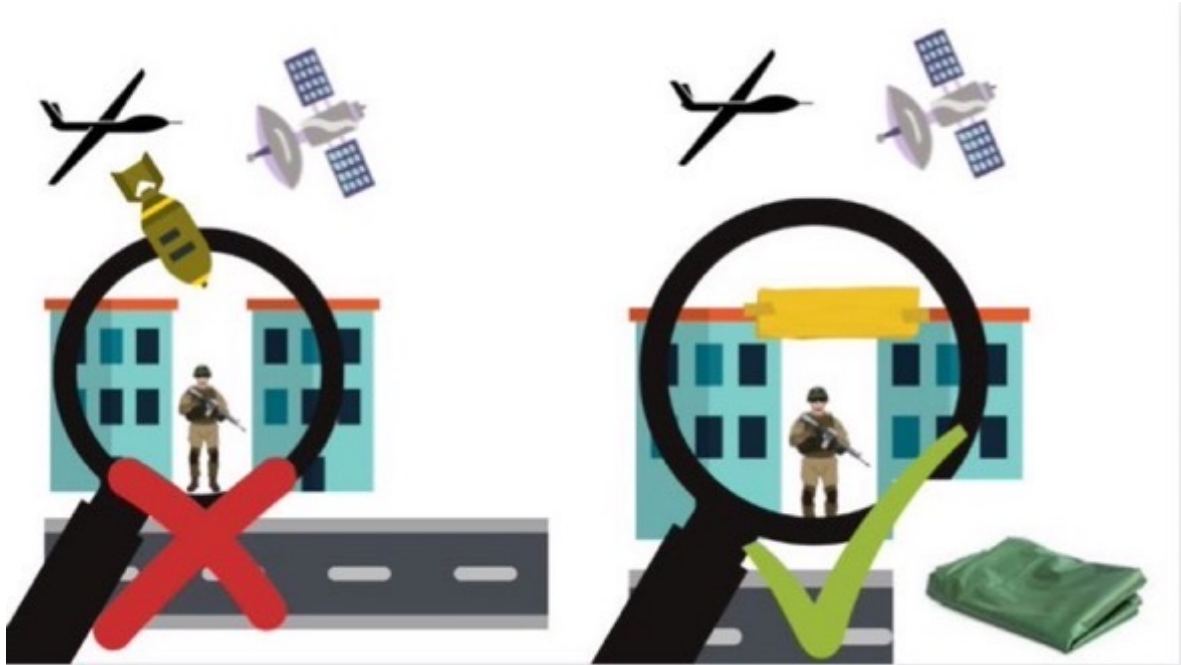
The next phase of the city attack will be indirect and direct fires as the enemy military moves to the city's boundary lines, attempting to enter the urban environment. This is a dangerous time because the defenders must be able to attack the invaders but also survive their attacks. The defenders can "hug" the attackers, allowing the defenders to get so close to the attackers that they can no longer use their artillery out of fear of killing their own soldiers.

The rubble from earlier phases makes strong fighting positions.



Stay Hidden at All Times

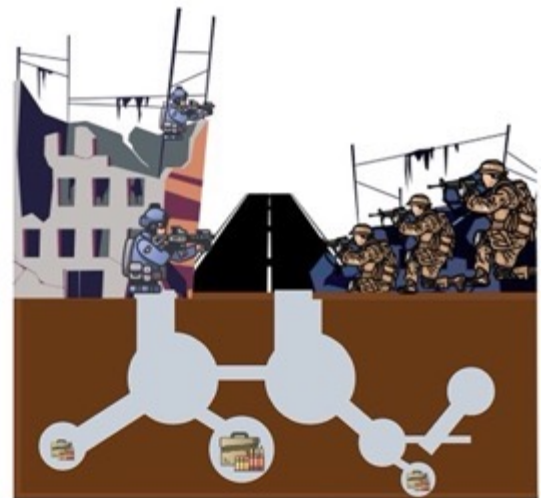
You must stay hidden. If you can be seen, you can be attacked by missiles, bombs, artillery, and mortars. Put tarpaulins, sheets/blankets, wood, plastic, tin, anything across the top of or between buildings so the things above or down the street cannot see you. Hide everything.



Use the Underground!

The underground has long served as a powerful urban warfare tool. It allows defenders to escape bombs, hide fighters, cache and protect supplies, to move unseen, and to attack the invading enemy.

The underground is the defender's best friend



Stalingrad, Vietnam, Grozny

If there is no underground below you, start digging. You would be surprised at the depth and length of a tunnel a team of civilians can dig in just a few days. Dig bomb shelters, passages under buildings, and safe places to put supply caches.



Close the Castle Gates

Think of your city, town, or village as a castle.

You have to close every possible way into the castle.

Block every road, street, alley into and inside the city.

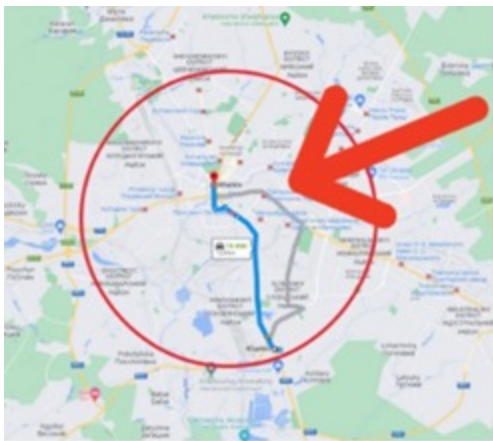
Destroy or block any bridge, airfield, major open area that a military would need to get into the urban area by vehicle, airplane, helicopter, parachute, or by foot.

Shape your urban area to only allow the attacker into areas you want them, where you can separate them into small groups so they can be destroyed.

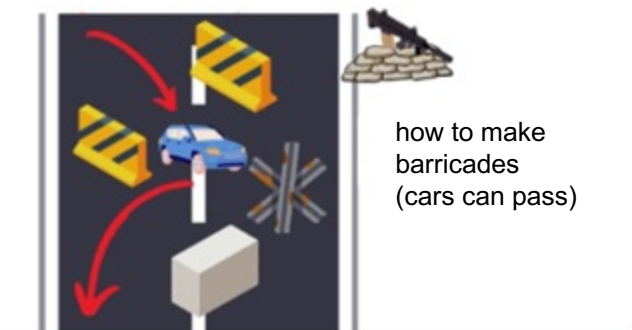
Layers and Layers of Barriers

The urban terrain must be shaped to slow or stop invading military forces so they can be attacked; force them into traps and ambushes, denying them access to the urban area.

Build multiple defense lines. Prepare complete circles around the city. Build fortifications. Place layer after layer of obstacles and blocks. Put up blockades on every street. Speed is security for the attacker. A slow vehicle or soldier is easier to hit and destroy!



- piercing = 30 min to the centre
- fast to the goal
- multiple barricades
- consumes more fuel
- slow = easier to target
- line of defence
- before each intersection



Always Improve the Defense

In any city defense, you always continue to prepare for the enemy's attack.

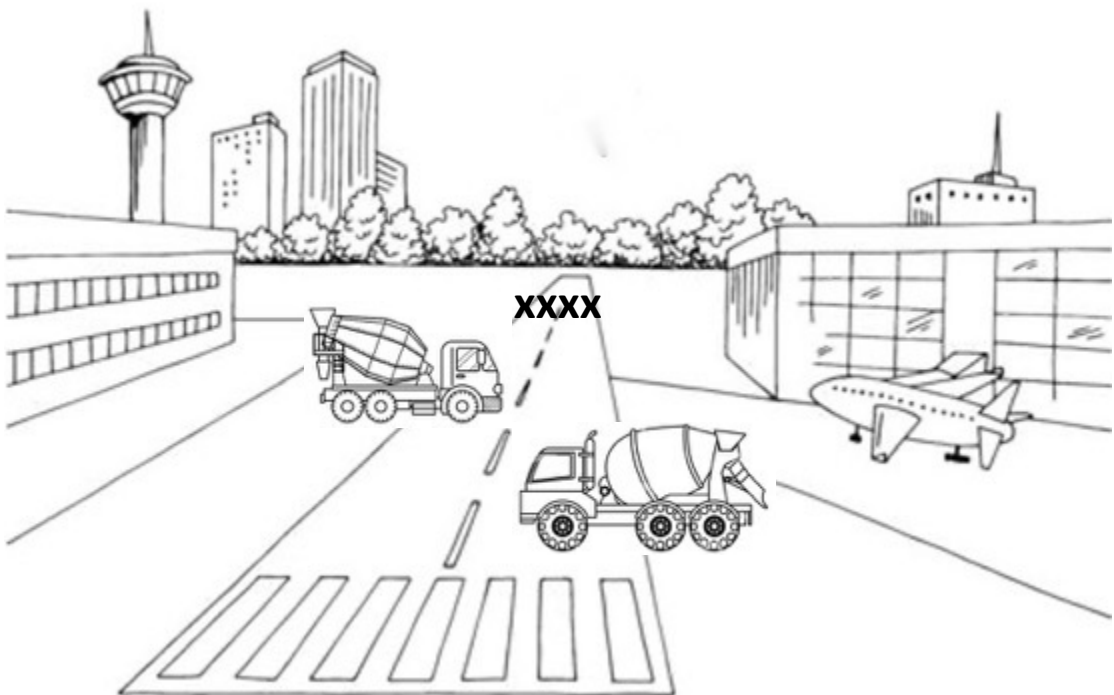
Even when fighting, continue to improve your position. Some defenders can be fighting while others are making positions stronger. Do not sit around and do not stand in the open! Build bunkers near the checkpoints. Dig tunnels! Build bunkers near the checkpoints. Dig tunnels!



Block or Destroy Any Airfields

Airfields are primary places an attacker will try to rapidly get into an urban area. They will send forces to seize the airports and then try to land airplanes with many more attackers.

The defender must block any airfield. Park the biggest and heaviest vehicles you have (take keys and batteries) on the runways. Dig up the runways if there is time.



Block or Destroy Port/Docks

A vast majority of cities are on coasts or waterways. Waterways, rivers, beaches, ports, and docks are primary places an attacker will try to rapidly get into an urban area.

Make port untenable. Destroy docking facilities.

Emplace obstacles in water, beaches, or docks to prevent landing craft from getting close.

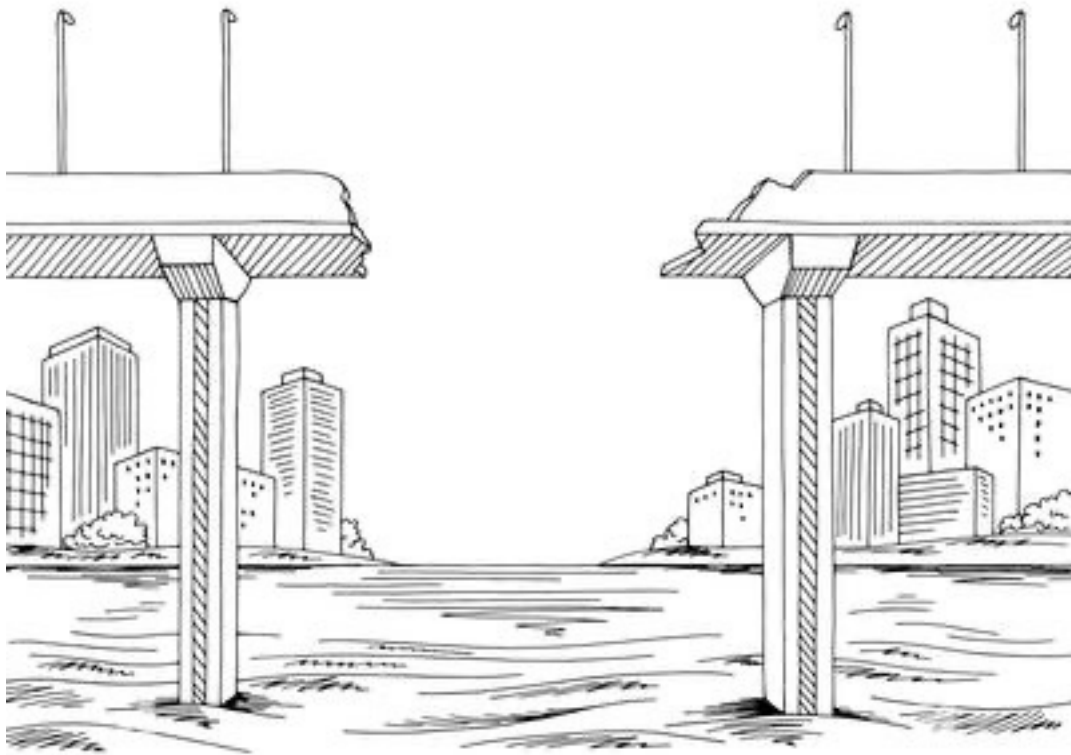
Defenders can sink / scuttle ships by unloading docks.

Have weapons/bunkers to cover beaches and ports with



Block or Destroy All Bridges

Attacking militaries want to get inside the urban area as fast as they can. Heavy military vehicles must use bridges. Most militaries of the world have very limited ways to cross rivers without bridges. If the urban defender blocks/destroys the bridges, the attacker will come to a rapid stop.



Block All Streets

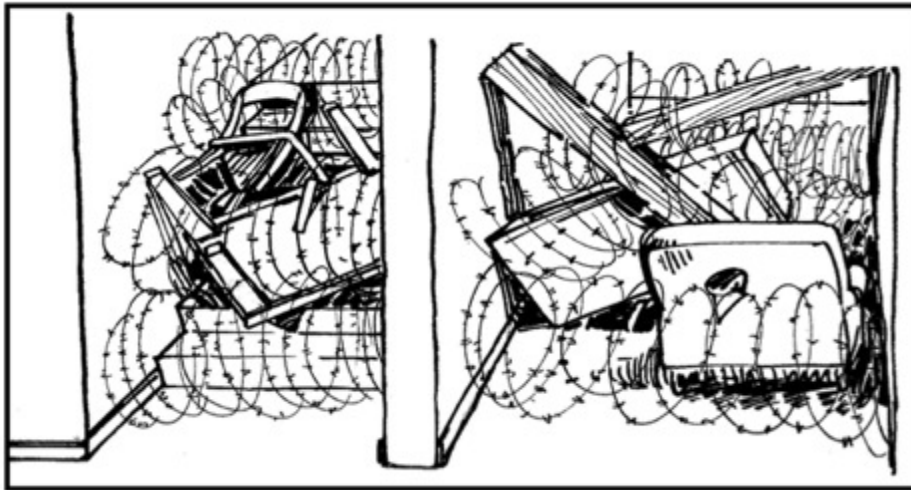
Go out and build obstacles in the streets! Block them with buses, dump trucks, cars, concrete, wood, trash, anything. Then block any spot in the city where there are tall buildings on each side in already tight areas. All streets and alleys!



Block All Doorways and Stairs

Block the doorways and stairs to as many houses as possible, especially if the houses will be used as fighting positions. Use furniture, debris, razor wire, everything.

Attackers will try to come into the houses using the doors. Take that option away from them.



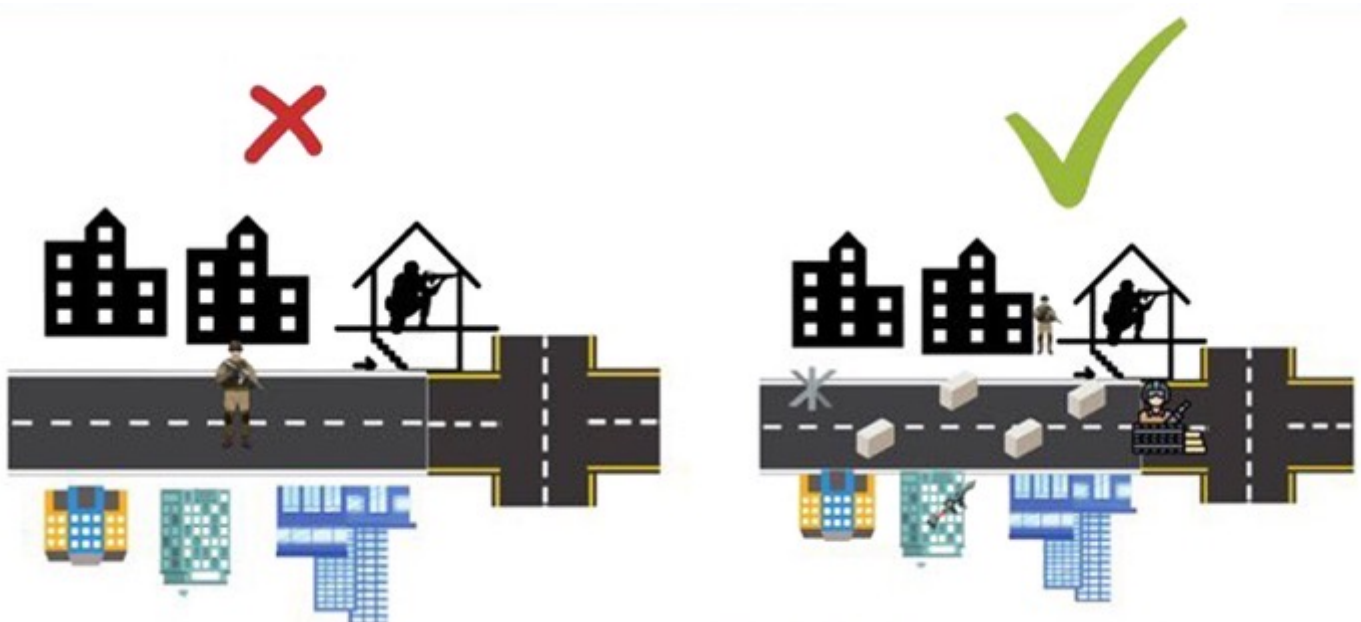
Stop or Slow all Vehicles

Slow or stop all vehicles from entering or moving through your areas. Block all the streets. Slow vehicles down so you can shoot or throw Molotov cocktails at them.

Roadblocks in every city, town, village slows enemy down. They burn more fuel. They are easier to target.

If the attacker stops at an obstacle, opens their vehicle hatch or gets out, they can be attacked.

You must be careful. Anyone with a weapon on the streets can be seen by the enemy and hit by rockets or artillery. Be inside buildings if planning to attack.



Obstacles

The urban defender uses all the resources of the urban environment to make obstacles and barriers.

The best obstacles are those that can be covered by fires: either indirect fire (artillery/mortars) or direct fire (rifle, machine gun).

Obstacles and barriers can serve many functions like:

- completely block a road, area, or path
- slow the enemy down
- cause the enemy to get out of their vehicles so they can be attacked
- buy the defender time

Make Obstacles That Will Stop Everything

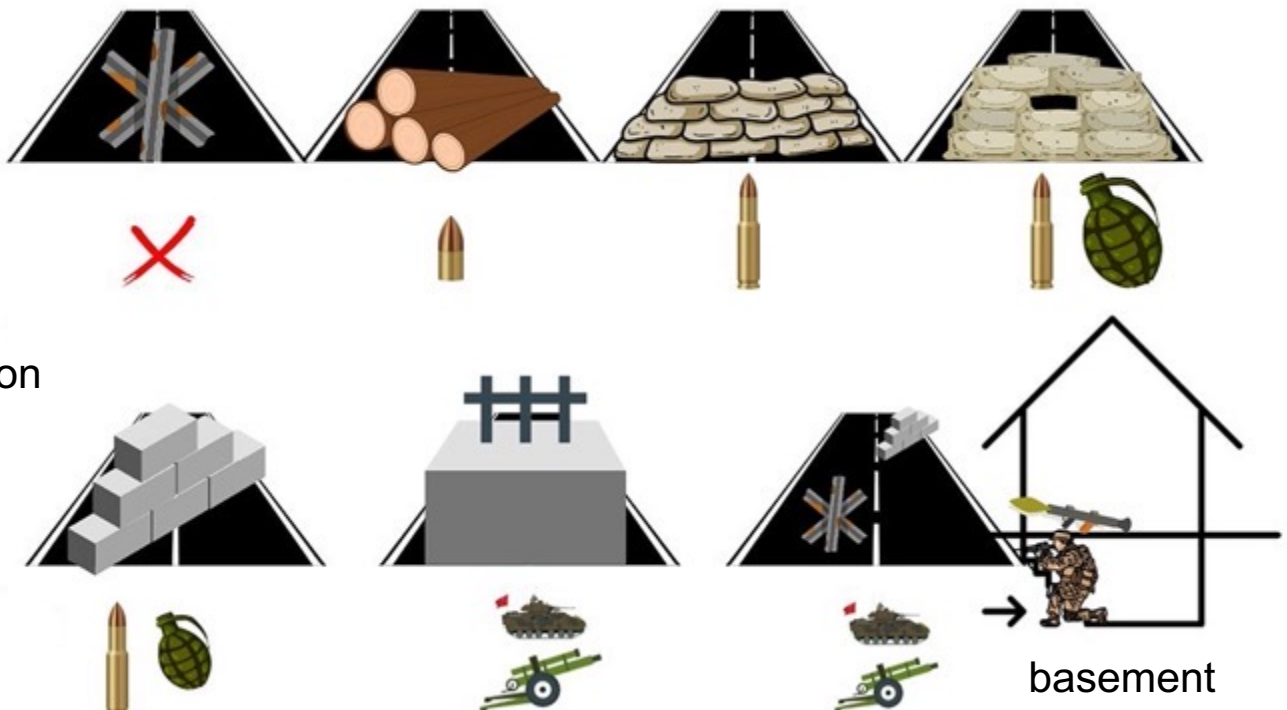
The urban defender uses all the resources of the urban environment (rivers, concrete, steel, cars, etc.) to defend their cities. Modern cities often have existing concrete barriers for vehicle checkpoints or infrastructure protection. These barriers offer ready-made field fortifications. Steel hedgehogs are good too.



Use the Strongest Materials

The urban environment is full of the strongest material.
Choose material for barriers wisely. Use the urban material
that naturally gives the most protection.

Cement and building material are your best protection



Vehicles

The urban environment is full of vehicles of all types. Use the biggest, heaviest, strongest vehicles available. Any vehicle will work. They make excellent immediate obstacles. Park them in the streets, alleys, airfields, everywhere. Use cars, trucks, buses, dump trucks, construction vehicles.



Reinforced Concrete

Use concrete as the primary defense material. An urban defender uses the unique urban material to their advantage. Concrete reinforced with steel bars (rebar) is ten times better than sandbags. Use rubble, rock, bricks.



Concrete reinforced with steel bars (rebar)



Sandbags for barriers/bunkers

Rubble

Deconstruct buildings. Create rubble by destroying structures to produce very strong barriers of broken concrete, rebar, stones, bricks, and other solid material. Or if the enemy bombs, use the rubble their bombs created. Build mountains of rubble.



Water

Water such as rivers, swamps, and lakes can serve as powerful obstacles as well as rapid transport routes for defenders. As discussed with destroying bridges, military vehicles and forces find it very hard to cross water obstacles.

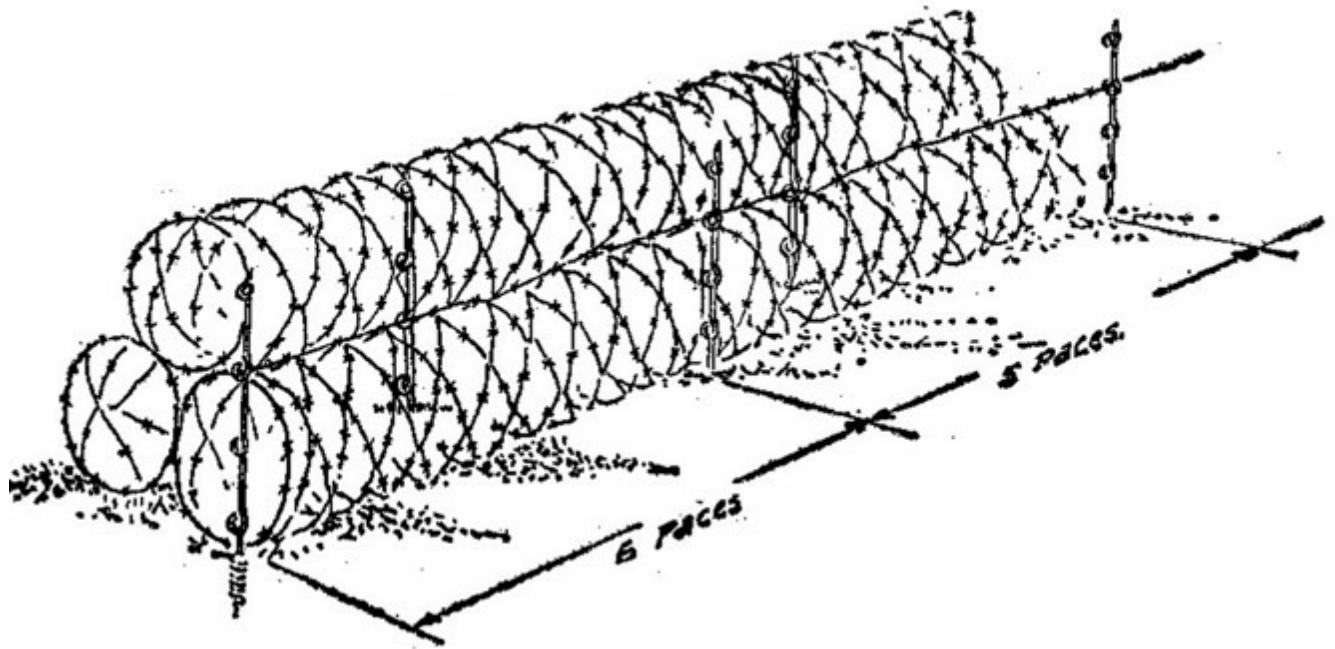
Water can also be added to areas surrounding urban areas to create mud fields that military vehicles cannot cross – a modern day moat for your castle.

When Russia invaded Ukraine in February 2022, Ukraine flooded three major rivers around their capital city Kyiv. They opened dams that raised the level of the rivers so the rivers would be bigger, deeper, and more powerful obstacles for the Russians trying to reach the city. The Ukrainians even raised one river to flood a very large area leading to that city that the Russian then could not pass.



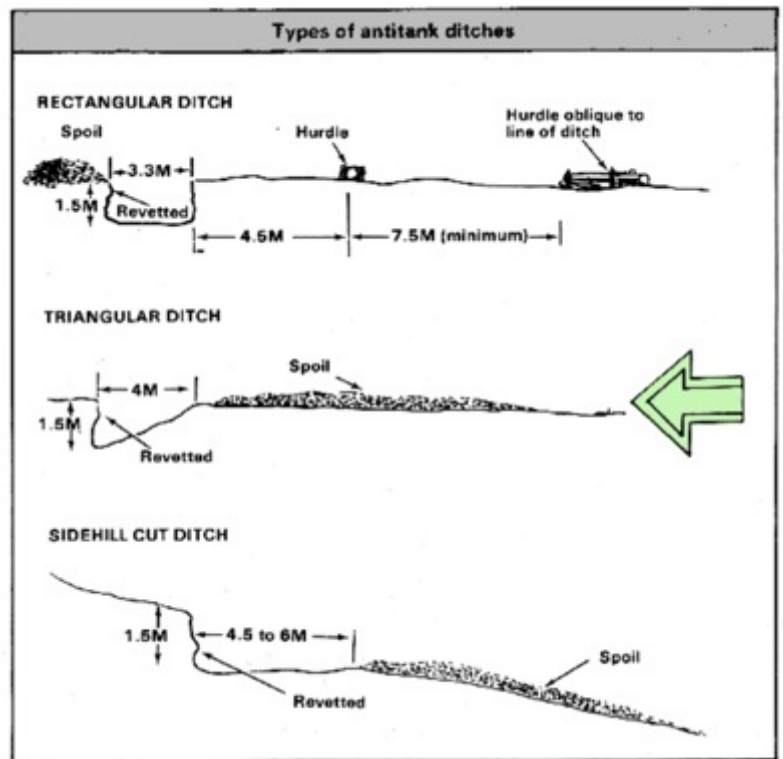
Razor Wire

If you have razor wire, use it. Stack three together. Lay between buildings. A triple strand razor wire can stop most vehicles, even slow a tank.



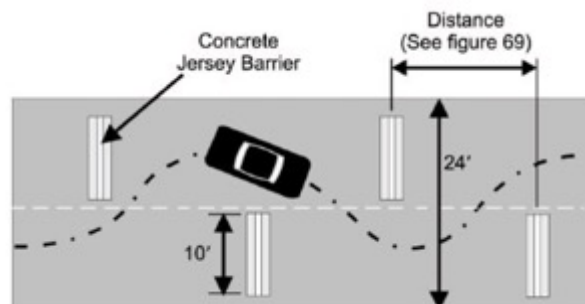
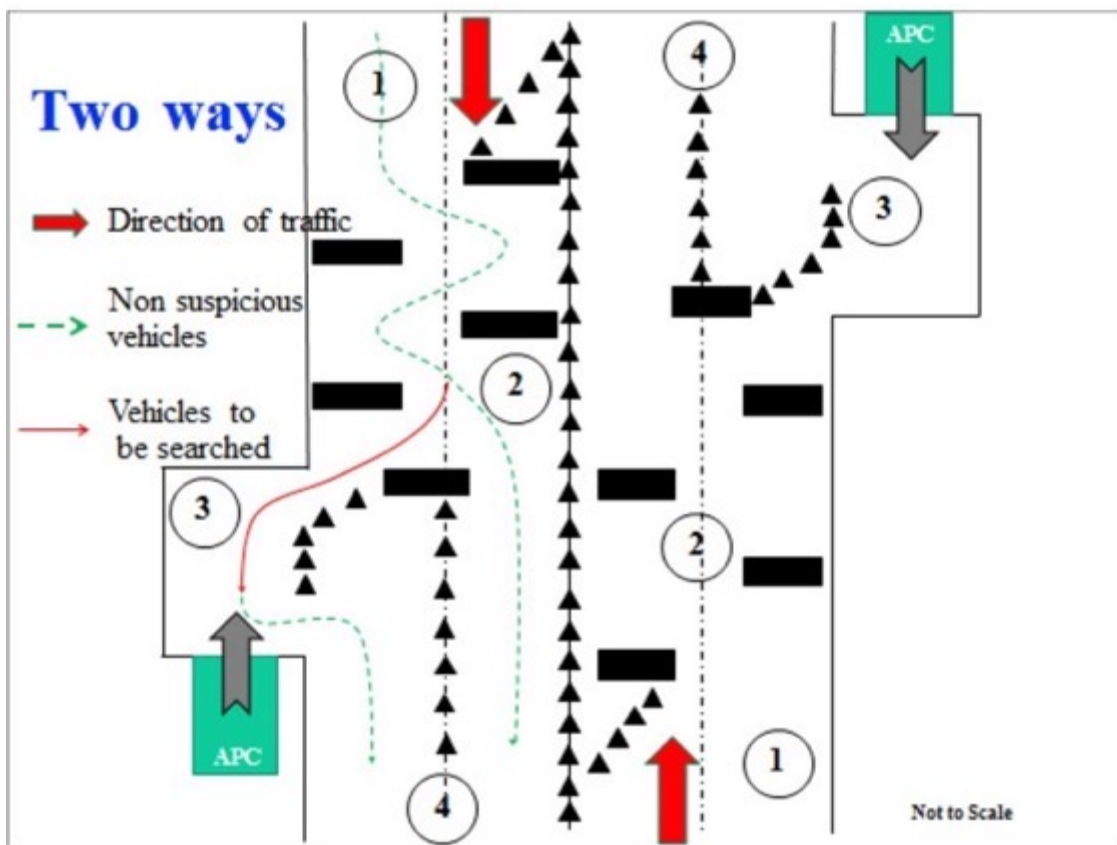
Anti-tank Ditches and Trenches

If you have time and digging assets, dig tank ditches and emplace a barrier around the densest parts of the city, especially any entrances that can be spared without impacting civilians needs. The goal is to add density to already dense urban areas.



“S” Obstacles

If there is a street you still need to use, build a “S” or serpentine pattern obstacle that still slows a vehicle down. Think police check point, which you could set up if you wanted to catch saboteurs before the attackers reach your location. There should be no roads that allow free, rapid driving down the street.



Steel Hedgehogs

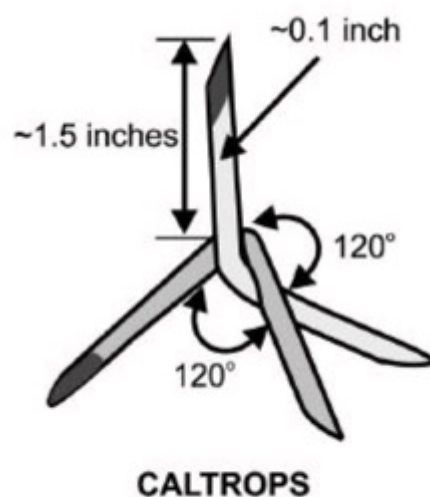
Hedgehogs are six-pronged obstacles formed from three-pieces of 4-foot long 4 x 4 angle iron. They are designed to rotate under vehicles and either immobilize or overturn them. They can be welded with angle iron, with or without additional backing plates, where the three pieces are jointed.



Spike Strips and Caltrops

Smaller sizes of hedgehogs using smaller angle iron and shorter, sharpened ends can be made and chained together for tossing or towing across a street or pathway traveled for wheeled enemy vehicles. These are good for locations where the route must be opened and closed.

Caltrops are small, four-pronged obstacles used to penetrate vehicle tires or footgear. They can be very effective against personnel and vehicles without foam filled tires. An example caltrop leg is about 1.5 inches long and about 0.10 inches in diameter. Caltrops can be made from 16- or 2-penny nails with their heads cut off, both ends sharpened, bent at a 120 degree angle in the center, and spot welded at the center. They are typically used in place of triple concertina wire and are not easily detected or removed.



Reporting on the Attacker

The urban defender many not have the ability to resist, but they can still contribute to the defense of the urban area by accurately and timely reporting information on the attacker's location and activity.

Reporting (A Way)

There are many ways to report on the enemy. The most important aspects are to provide as much information as possible, briefly and accurately. A common military reporting format is size, activity, location, unit, time, and equipment (SALUTE):

Size/Who – Expressed as a quantity and echelon or size. For example, report "10 enemy Infantrymen" (not "a rifle squad").

Activity/What – What they are doing, for example, "emplacing mines in the road."

Location – This is generally a military grid coordinate.

Unit/Uniform/Who –name and other identifying information, such as patches, headgear, vehicle markings

Time –Report the time you saw the enemy activity, not the time you report it.

Equipment –Include information about equipment involved, tactics used.

Example SALUTE report

SIZE	Seven enemy personnel.
ACTIVITY	Traveling southwest.
LOCATION	GA123456.
UNIT/UNIFORM	Olive-drab uniforms with red six-point star on left shoulder.
TIME	210200JAN16.
EQUIPMENT	Carry one machine gun and one rocket launcher.

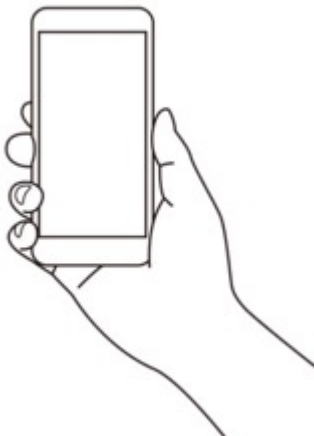
Reporting (Safety)

*It is important to know that even a civilian collecting or reporting on an enemy force is considered taking part in hostilities while collecting reporting and can be target for attacked by the other military.

Reporting or collecting information on enemy forces must be done safely.

Electronic collection like photos or videos with smart phones, but must be done safely:

- Turn off any geo-locate functions on your device.
- Never go live on a public social media platform, these feeds can be located and targeted or reveal information on friendly forces.
- If pictures/videos are collected and provided to others, ensure they are then deleted. Also delete messages. Leave no record on your device of providing information.



Weapons

The urban defender uses any weapons they have available or can create. When the enemy enters your defense and you are successful, it may give you the opportunity to take and use their weapons.

General Weapons Safety

Treat every weapon as if it is fully loaded.

Handle all weapons with care. Do not throw around. Use as a cane, place in the dirt, or mishandle in any other way.

Do not point your weapon unless you are ready to shoot it.

Always identify your target before you shoot.

Always keep your weapon on safe unless you are firing it.

Do not put your finger on the trigger unless you are aiming and about to fire it.



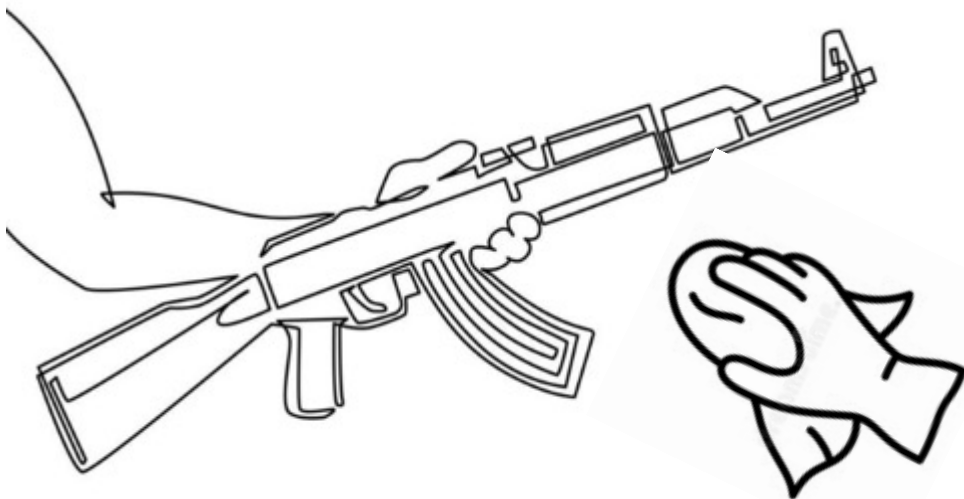
General Weapons Care

Keep your weapons clean: free of rust, dirt, mud, carbon, and any other dirty material.

Clean your weapon every day!

Wipe with a rag and apply a lubricant to moving parts.

A dirt weapon can lead to a malfunction or even worse, a complete failure while fighting.



AK-47

Characteristics



AK-47	
Caliber	7.62 x 39 mm
Weight (Empty)	Approx. 9.48 lbs
Length:	
Fixed Buttstock/Folding Buttstock-Extended	Approx. 34.2 inches
Folding Buttstock-Folded	Approx. 27.5 inches
Rifling	4 grooves, right-hand twist 1 turn in 12 inches
Muzzle Velocity:	Approx. 2346 fps
Sustained Rate of Fire	12/15 rounds per minute
Maximum Effective Range	400 meters
Fire Selector	SAFE, AUTO, SEMI
Sights:	
Front	Adjustable front sight post for elevation
Rear	Adjustable windage drum for windage Adjustable leaf sight for elevation
Magazine Capacity	30 rounds

AK-47

Left Side. The left side view of the weapon displays the muzzle, barrel, gas tube, top cover, magazine release, and pistol grip. Refer to Figure 1.

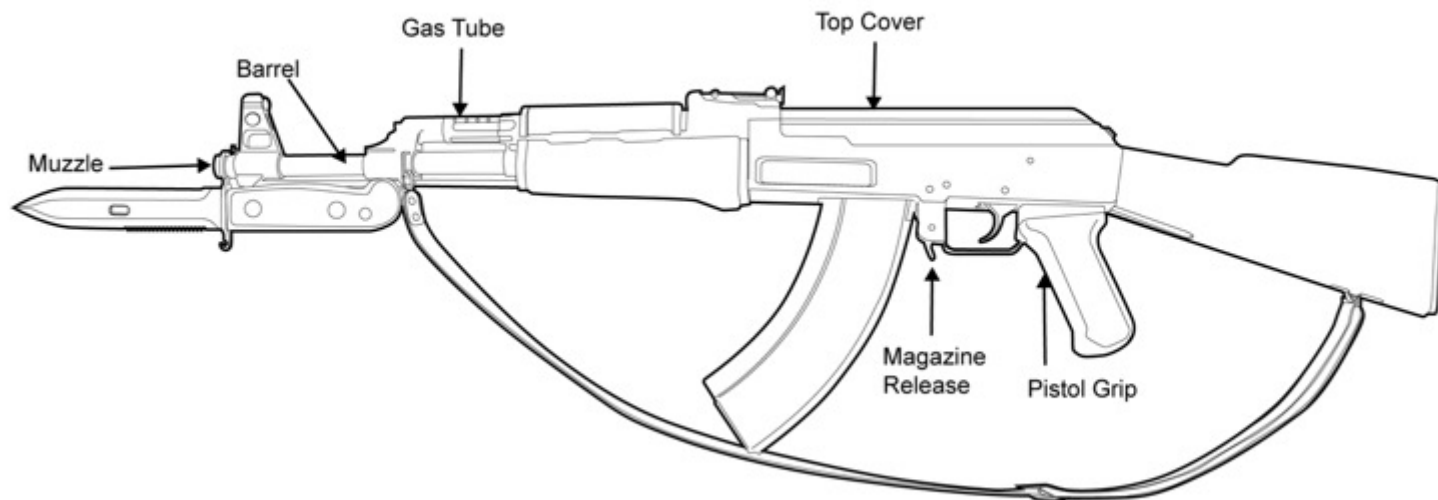


Figure 1. Left Side of the AK-47 Rifle.

Right Side. The right side view of the weapon displays the buttstock, guide rod spring lock, trigger, selector lever, charging handle, rear sight, front sight, sling, and bayonet. Refer to Figure 2.

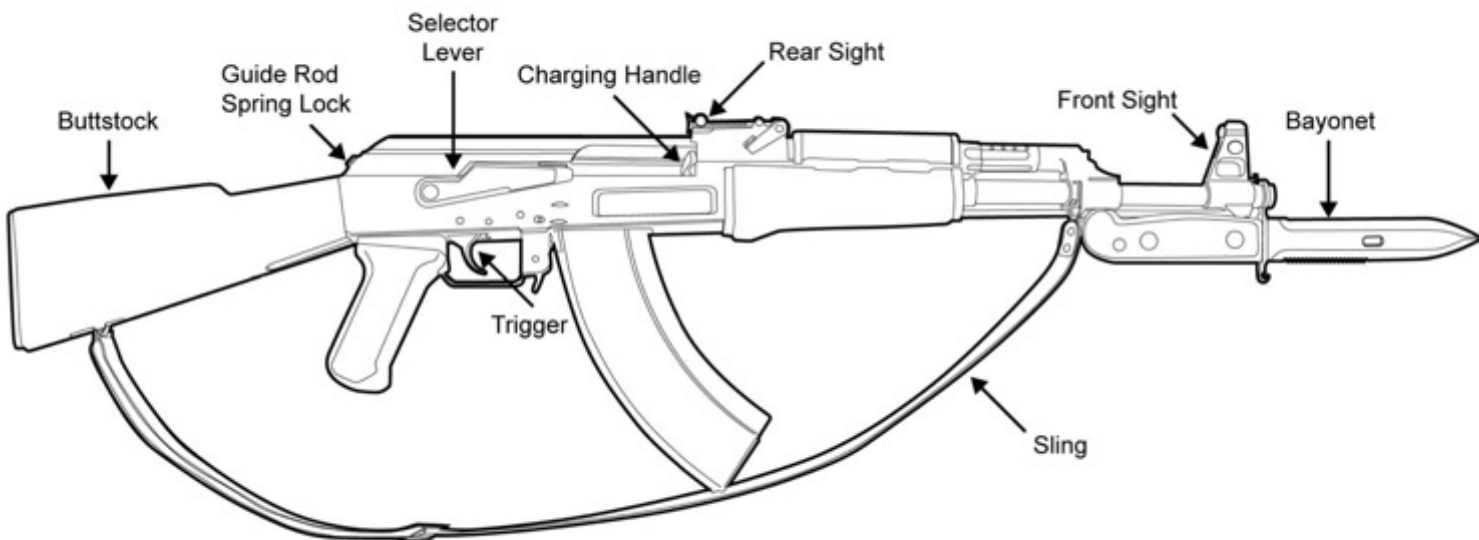


Figure 2. Right Side of the AK-47 Rifle.

AK-47

MAJOR COMPONENTS

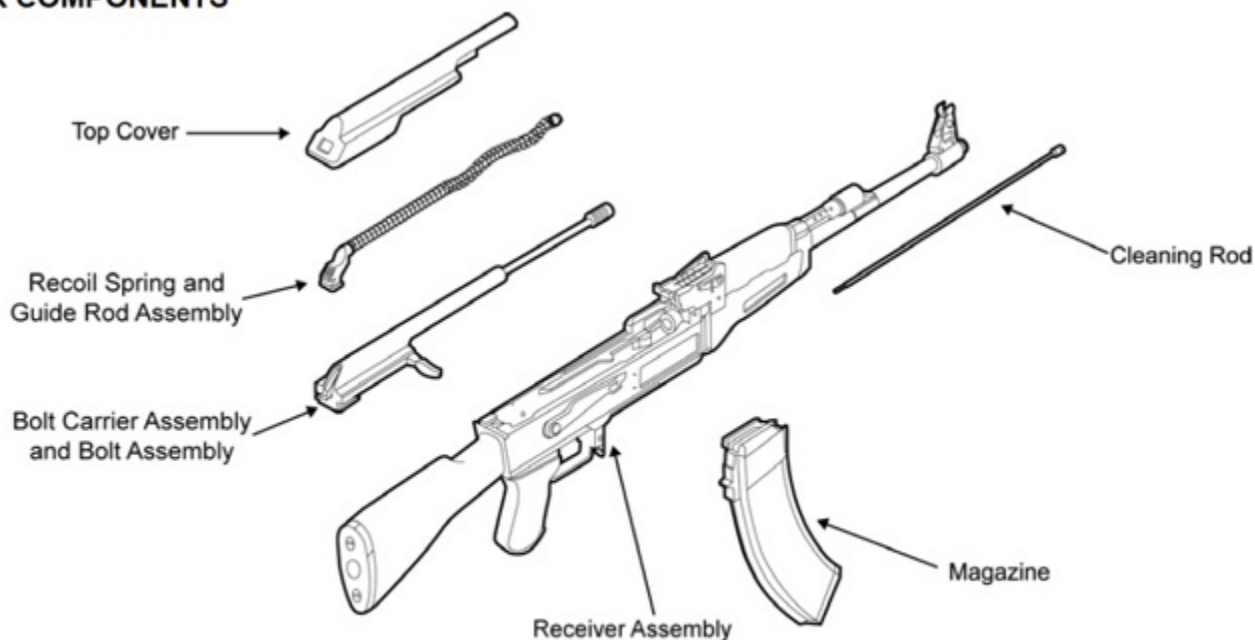


Figure 1. Major Components of the AK-47.

1. **Receiver and Barrel Assembly.** The receiver and barrel assembly includes the front sight assembly, gas block, gas tube, upper and lower handguards, rear sight assembly, auto sear, auto sear spring, hammer assembly, magazine release, selector lever, trigger assembly, pistol grip, and buttstock.
2. **Top Cover.** The top cover covers and protects the mechanisms housed in the receiver.
3. **Recoil Spring and Guide Rod Assembly.** The recoil spring and guide rod assembly returns the bolt carrier group to the locked position during the counter-recoil cycle.
4. **Bolt Carrier Assembly and Bolt Assembly.** The bolt carrier assembly includes the charging handle, gas piston, bolt carrier, and houses the bolt assembly, which includes the bolt, grooved extractor retaining pin, extractor, extractor spring, firing pin retaining pin, and firing pin. It carries out the cycle of operation.
5. **Magazine.** The magazine can be metal or plastic, can hold 30 rounds, and is attached to the receiver through the magazine well. It is held in place by the magazine catch. The forward motion of the bolt carrier assembly strips the cartridge from the magazine and feeds it into the chamber.
6. **Cleaning Rod.** The cleaning rod is used to conduct preventive maintenance.

AK-47 (Selector Positions)

SAFE. The weapon will not fire when the selector lever is set on SAFE. The selector lever must be off SAFE to chamber a round or to clear the weapon. Always place the selector lever on SAFE when inserting and removing a magazine. The selector lever can be set on SAFE even when the hammer is forward. Refer to Figure 6.



Figure 6. Selector Lever Placed on SAFE.

SEMI. When the selector lever is placed on SEMI, the weapon will fire one round each time the trigger is pulled. The selector lever must be set on SEMI or AUTO to chamber a round or to clear the weapon. Refer to Figure 7.



Figure 7. The Selector Lever Placed on SEMI.

AUTO. When the selector lever is placed on AUTO, the weapon will continue to fire as long as the trigger is held to the rear or until the magazine is empty. The selector lever must be set on SEMI or AUTO to chamber a round or to clear the weapon. Refer to in Figure 8.



Figure 8. The Selector Lever Placed on AUTO.

AK-47

Loading the weapon

WARNING

If the weapon is dropped or jarred with a loaded magazine in place, it could chamber a round and subsequently cause a negligent discharge. Failure to follow this warning may result in injury or death to personnel.

CAUTION

NEVER ride the charging handle forward. Allow it to move forward on its own.

1. Set the selector lever on SAFE.
2. Seat the front lip of the magazine against the front of the magazine well and rock the magazine up and to the rear, until an audible “click” is heard indicating that the magazine release has locked the magazine in place. Push up and pull down on the magazine to ensure that it is firmly seated. Refer to Figure 1.



Figure 1. Inserting a Magazine.

3. Place the selector lever on SEMI.
4. Charge the weapon to chamber the first round. DO NOT ride the charging handle forward.
5. Place the selector lever on SAFE.

AK-47

Unloading the weapon

1. Point the weapon in a safe direction and set the selector lever on SAFE.
2. To remove the magazine, press the magazine release toward the magazine and rock the magazine down and forward. Refer to Figure 2.



Figure 2. Removing the Magazine.

3. Place the selector lever on SEMI or AUTO. Refer to Figure 3.



Figure 3. Selector Lever on SEMI (left) or AUTO (right).

4. Pull and hold the charging handle to the rear.
5. Visually and physically inspect the chamber and receiver to ensure they contain no ammunition.
6. Release the charging handle, allowing it to return forward. Set the selector weapon on SAFE.
7. The weapon is now cleared and SAFE.

AK-47

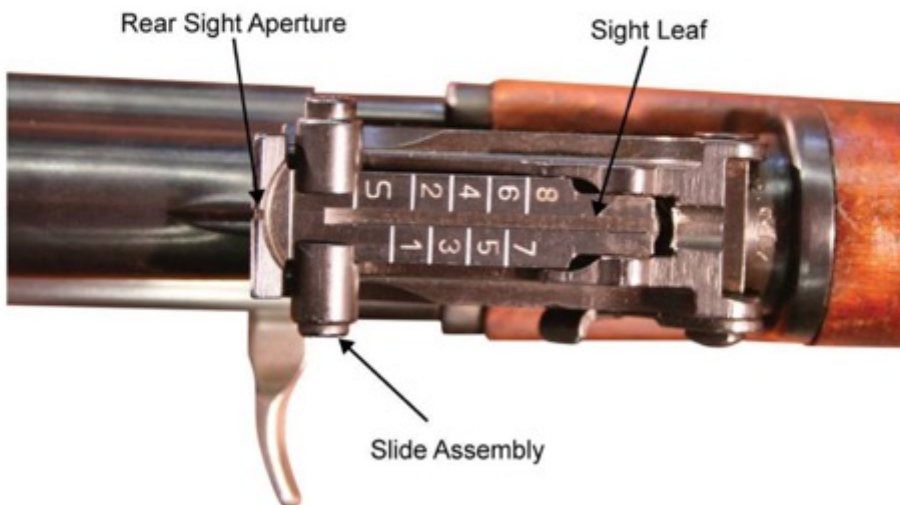
Adjusting Sights

Front Sight.

- a. Front Sight Post. Screwing the front sight post down will move the strike of the round UP, screwing the front sight post up will move the strike of the round DOWN. The combination tool (or the handle of the front sight adjustment tool) is used to screw the front sight post down or up. Refer to Figure 4.
- b. The Windage Drum. Pushing the windage drum left will move the strike of the round RIGHT, pushing it right will move the strike of the round LEFT. The front sight adjustment tool (or an M249 front sight adjustment tool) is used to move the windage drum. Refer to Figure 4.

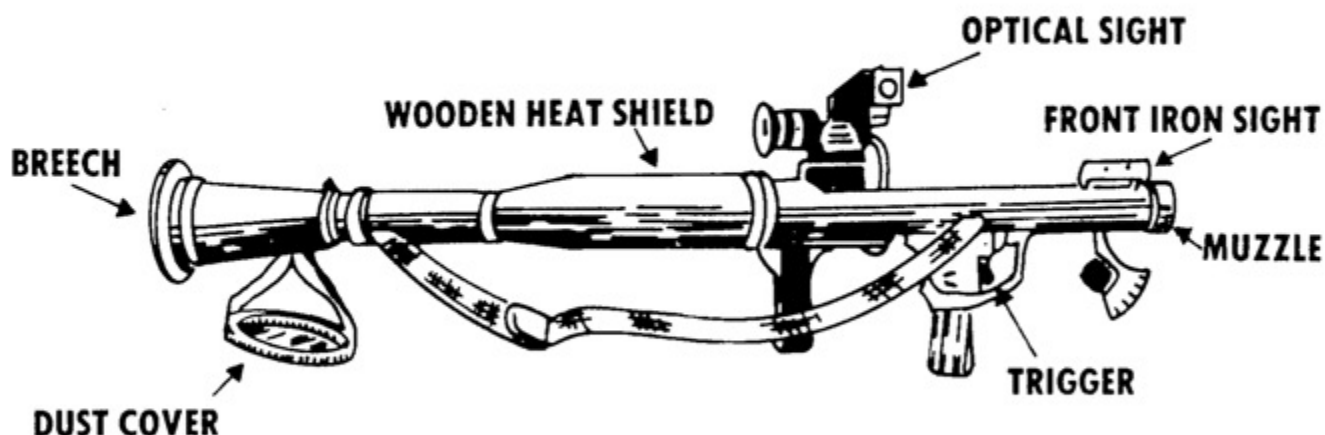


Rear Sight. The rear sight aperture is on the end of the sight leaf. Moving the slide assembly to different distance markings on the sight leaf adjusts for distance to target. The slide assembly snaps into place on the distance markings on the sight leaf. Set the slide on "S" for ranges under 100 meters, "1" for 100 meters, "2" for 200 meters. Refer to Figure 5.

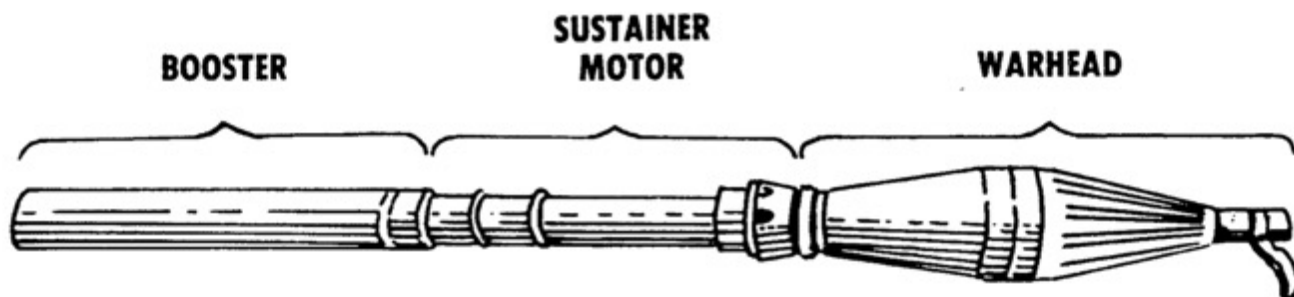


Rocket Propelled Grenade (RPG) - 7

THE RPG-7 ANTITANK GRENADE LAUNCHER WEAPON



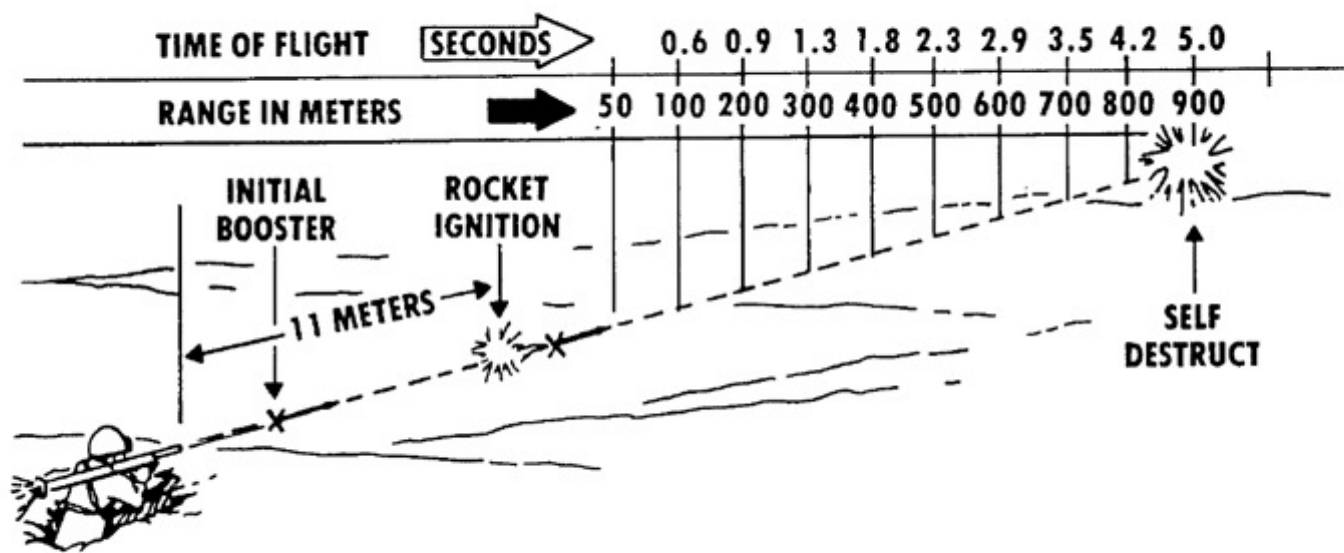
Airborne Model (RPG-7D)



PRELAUNCH

The grenade is carried in two parts: (1) Warhead and sustainer motor and (2) Booster charge. The two parts must be screwed together before the grenade is ready to fire.

Rocket Propelled Grenade (RPG) - 7



Rate of Fire

4-6 rounds per minute

Range

Arming

Sighting Range (Max.)

Maximum Range

5 meters

500 meters

900 meters ---

Self destructs

*Important note: The RPG requires 5 meters to arm

Velocity

Initial

Rocket Assist.

117 meters per second

294 meters per second

Armor Penetration at zero degrees

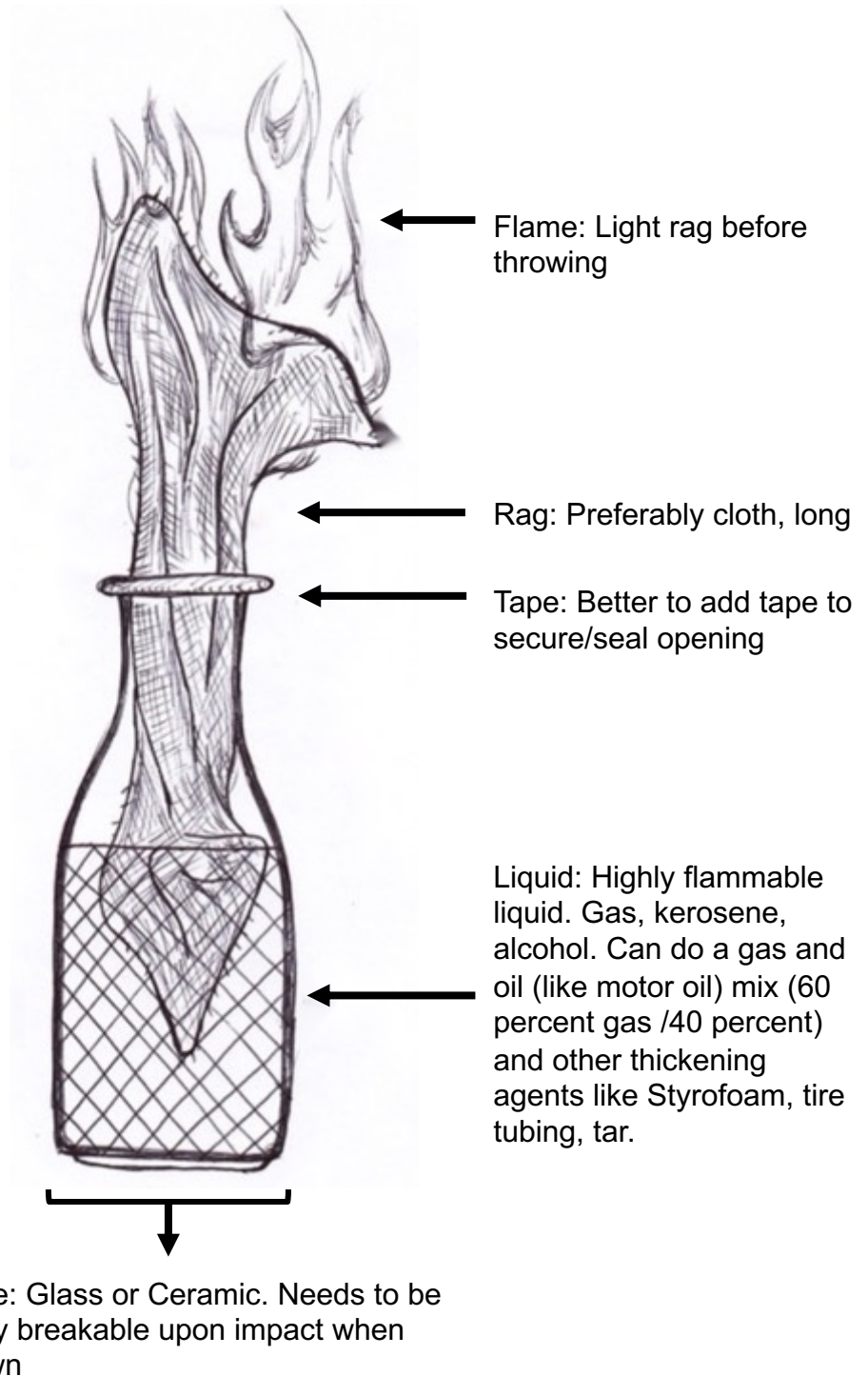
13 inches

Type Warhead

HEAT

Molotov Cocktails

Molotov Cocktail: An inexpedient device good to use against vehicles. Easily made. Effective because of the close engagements of urban warfare.



*See pages 76-77 for a few ways molotov cocktails can be used

Drones

Based on the electronic warfare and other capabilities of attacker, commercial drones may be great tools or weapons.

Drones can be used to spot the incoming attackers and prevent the attacker from surprising the defenders.

Drones can be used to know where to shoot at the attacker.

Drones can be used to drop things on attackers.

Drones can put fear into the hearts of the attackers. If they have to look up, and not know what is in the sky, they will not know if it is a killer drone or not.



Attack, Attack, Attack

While the purpose of the urban defense may not be to destroy all the enemy attackers, continual/selective attacks achieve the goal of holding the city. You want to turn every street into a meat grinder into which the attackers feed their soldiers to die.

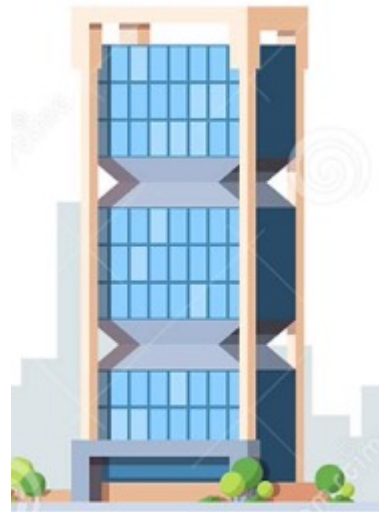
Choose Buildings to Defend

Use heavy clad concrete buildings. Look for buildings with thick walls of reinforced concrete. Government, university, industrial, and banking buildings are often good.

Do not use buildings with glass or wood, which will shatter or burn.

Use buildings that have long views to see and fire on the attacker from far away.

Always have a plan to escape the building, either through holes you make, or existing underground tunnels.



Build Urban Strong Points

An urban strong point is a fortified building that anchors a defensive area. The defender invests a lot of weapons and time in these buildings to make them very strong.

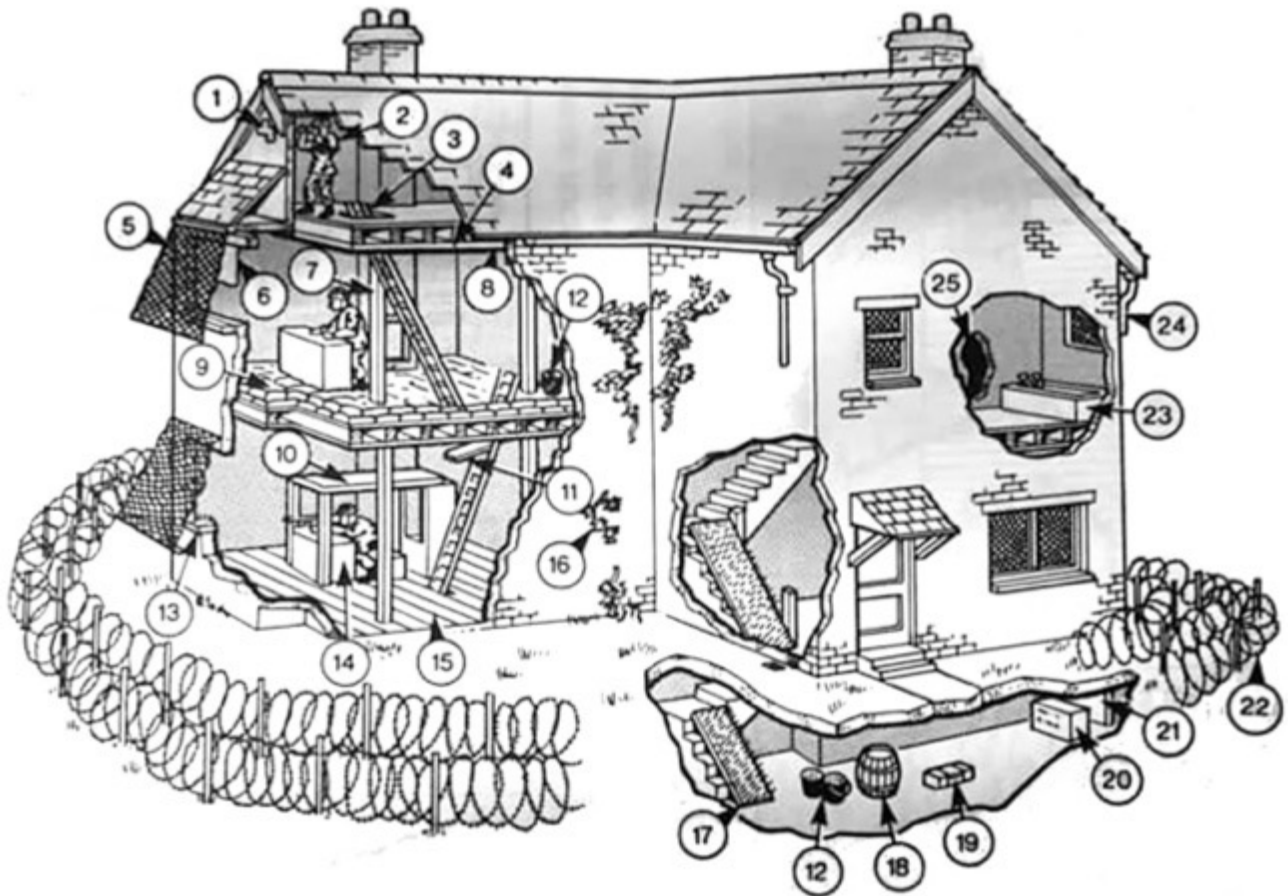
The urban defender builds their obstacles and barriers to force the attacker into strongpoints.

Well constructed strong strongpoints, can take an attacker days to clear.

For example, in the World War II Battle of Stalingrad, about 20 soldiers turned a four-story apartment building into a strong point. The building had long lines of sight from three sides and into a large courtyard. They placed barbed-wire and anti-personnel/tank mines around the building, smashed and cut holes in walls to create interior walkways, and placed machine-guns firing points in the building's corners. They would move to the cellar as indirect fire struck the top of the building or to higher floors when the attacker's tanks approached so they could fire anti-tank rifles down onto the vulnerable thin roofs of the tanks.

The soldiers held the building for 58 days against numerous mechanized and combined arms attacks causing massive casualties on the attacker. The building was later called Pavlov's house.

Preparing a House as a Strong Point



1. Small hole in wall under eaves
2. OP in attic
3. Opening in floor
4. Capsill
5. Wire netting
6. Curtain or sacking
7. Strut

8. Remove plaster or provide hard cover
9. 2 Layers of sandbags on floor
10. Doors
11. Ledge (To impose delay)
12. Sand
13. Boards with nails on sill
14. Boxes filled with stones
15. Groundsill
16. Creeper removed

17. Boards with nails
(Narrow passage left for defenders)
18. Water
19. Ammunition
20. Packing case filled with stones
21. Door leading to emergency exit
22. Barbed wire obstacles thickened at corners
23. Bath filled with water
24. Rainwater pipe removed
25. Intercommunication hole in partition wall

PAM-45 PART 2. Infantry Platoon Basic Tactics. Section 55. Figure 35

Preparing a House for Defense

There is no end to the tasks that will improve your defence: the only limiting factor will be time. After you have worked out your arcs of fire and cut firing ports to cover these, you will have to work out a priority of work to achieve the best possible defence in the time available.

Observation

Cut a hole for observation in the attic, the wall underneath the eaves.

Use **curtain or sacking** to cover the windows. Cover windows with **wire netting** to keep out grenades or satchel charges.

Floor boards should be removed below downstairs windows so that if the enemy breach the window they will not land on a solid floor. Put nails or broken glass between the floor spars.

Grenade holes

Small bores should be cut in the floors so that if the enemy get in downstairs you can drop grenades on them from your fighting positions

Do not forget the **chimney**: fill it with barbed wire

Remove all the plaster off the ceiling and use this to fill sandbags etc. If you remove the plaster now it will not fall on your head later.

Two layers of sandbags on the floor will stop the enemy shooting through it from below should they break in downstairs

As temporary stairways, use holes cut in floors with jadder or knotted rope.

Window protection and 'coffins'

Wire mesh over the windows will stop the odd grenade being lobbed in. However, if you construct a sandbag coffin around your firing position you will be protected from grenade bursts and roof collapse. Then if the enemy get into your room you can throw a grenade over the top of your coffin into the room.

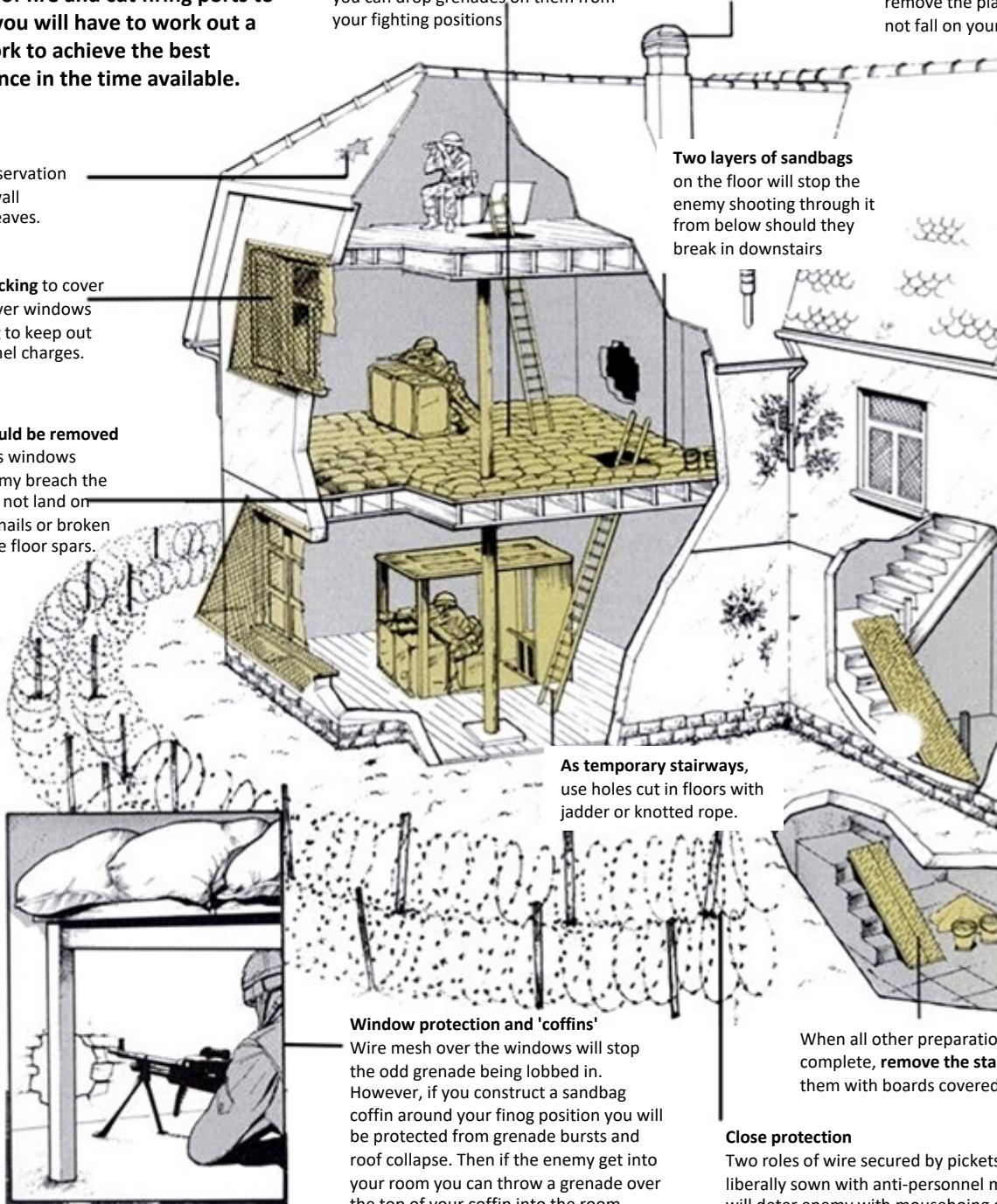
When all other preparation is complete, **remove the stairs** or cover them with boards covered in nails.

Close protection

Two roles of wire secured by pickets and liberally sown with anti-personnel mines will deter enemy with mousehoing charges.

Fighting in the dark

The rooms will be in total or semi darkness, so you can use neck wires and low wire entanglement in the rooms. This will slow the attacker up and give you time to get out of a lost room,



Public services

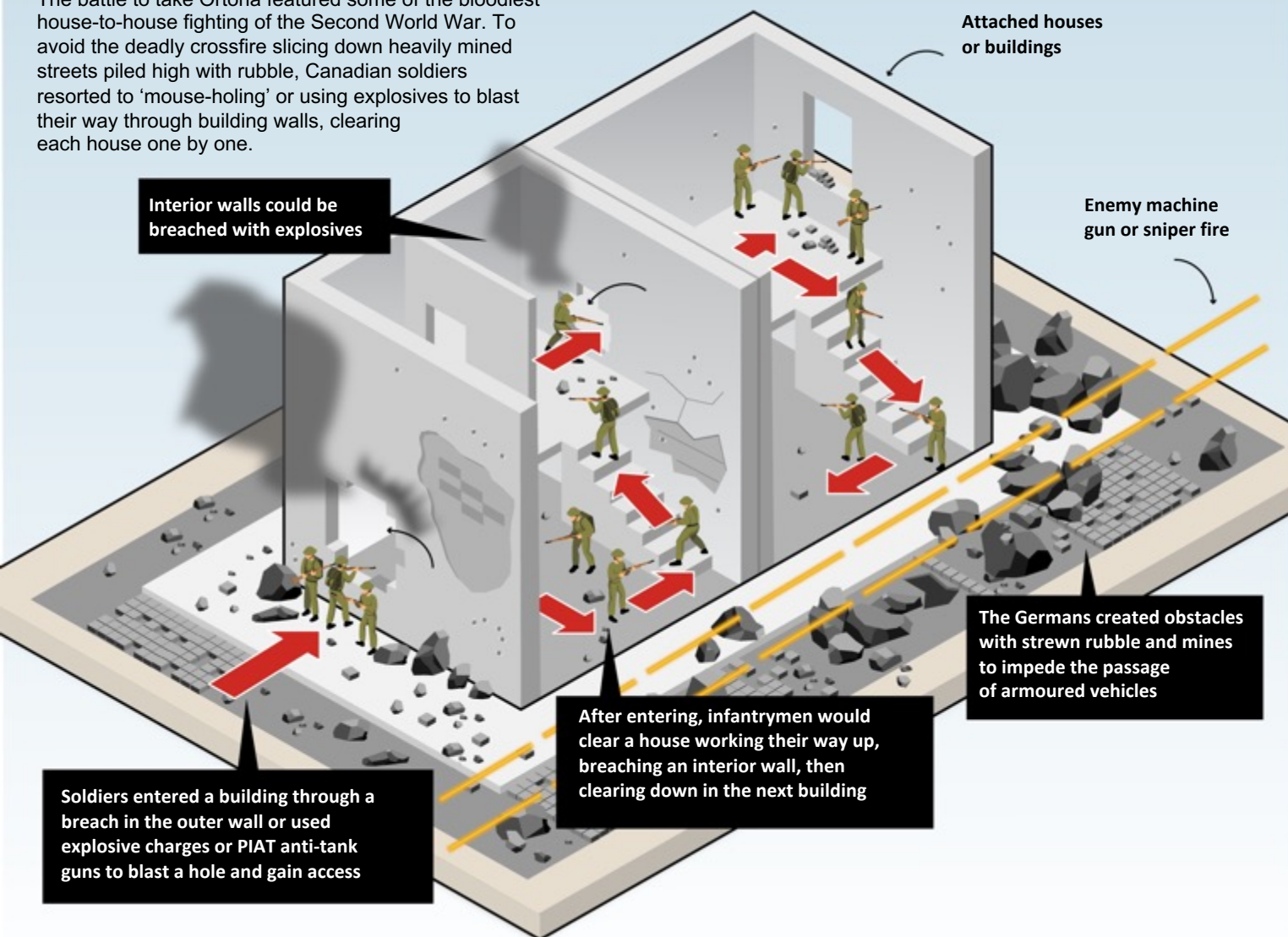
Gas is a real hazard, so turn it off outside the house the same goes for the electricity. If the enemy gets in, having to fight in the dark gives you the advantage you know the layout of the house, he does not.

Make Lots of Mouseholes

Make mouseholes and tunnels. The tactic of using mouseholes—holes created in interior and exterior walls of buildings that allow soldiers to move through the exterior walls and interior spaces of buildings—is one of the most dominant, recurring defense techniques. It allows you to move and attack unseen and protected in the concrete structures. Tunnels allow you to also escape bombings.

MOUSEHOLING AT OF ORTONA

The battle to take Ortona featured some of the bloodiest house-to-house fighting of the Second World War. To avoid the deadly crossfire slicing down heavily mined streets piled high with rubble, Canadian soldiers resorted to 'mouse-holing' or using explosives to blast their way through building walls, clearing each house one by one.



Use or Make Tunnels

The best buildings to defend from are those that have tunnels under them.

This allows the defender to move between buildings without being seen. It allows the defenders to escape bombs.

If there are no tunnels, try to make them.



Build Bunkers Inside and Outside Buildings

If there is time, create makeshift pillboxes, i.e. enclosed bunkers. They should have overhead cover (concrete on top of you) and be hidden from above.



Put Heavy Weapons Inside Buildings

You can put heavy weapons systems inside buildings. Large weapons can be disassembled and reassembled on the higher floor of a building to provide superior lines of sight and angles of fire. This also creates bunker-like protection to the defender's most casualty-producing weapons.



Put Caches (hidden supplies) Everywhere

Place caches everywhere you plan to fight from. Urban terrain provides great advantages for hidden, protected, and concealed pre-positioned supply points to support multiple primary, alternate, and supplementary fighting positions.

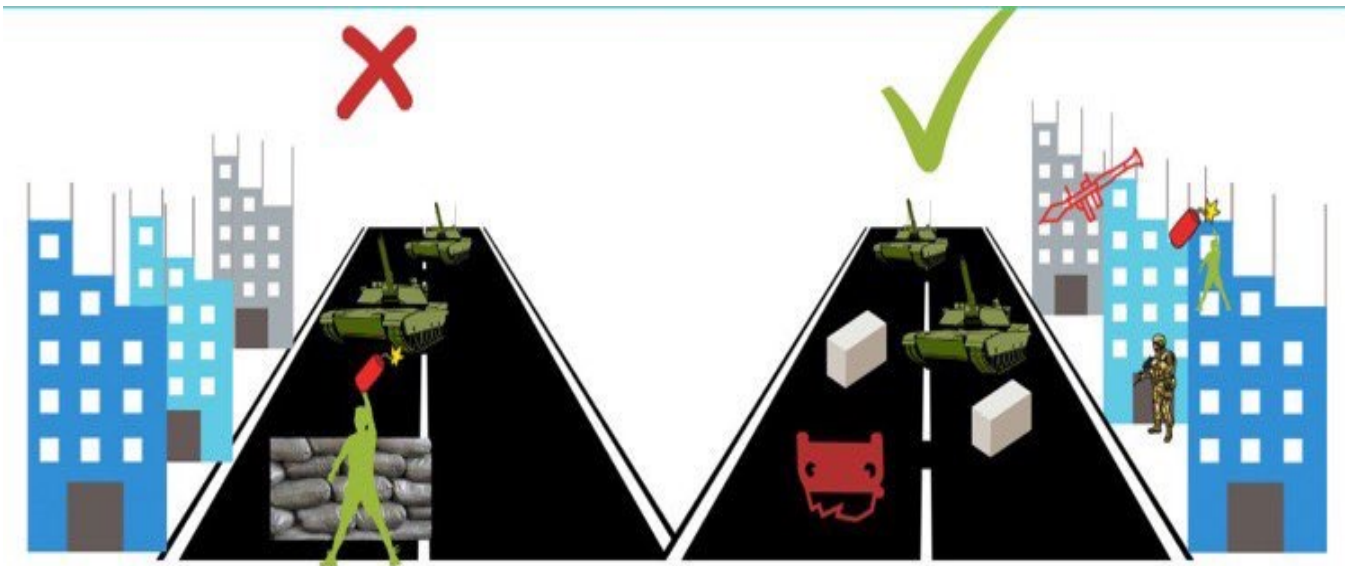
When fighting in a city it is easy to become disoriented. Have a special symbol or visual aid outside of a building that only you and your team know what it means, and that indicates it has a cache of supplies so that you can find them easily.



Attack From the Buildings (stay off streets)

Use the streets with buildings close to the roads to attack. The higher floors or basements are even better because tanks and other guns cannot elevate their barrels that high or low. It is just harder for the attacker to fight looking up or to point tank barrels down.

Defenders must stay hidden inside buildings until the moment of attack, then change positions.



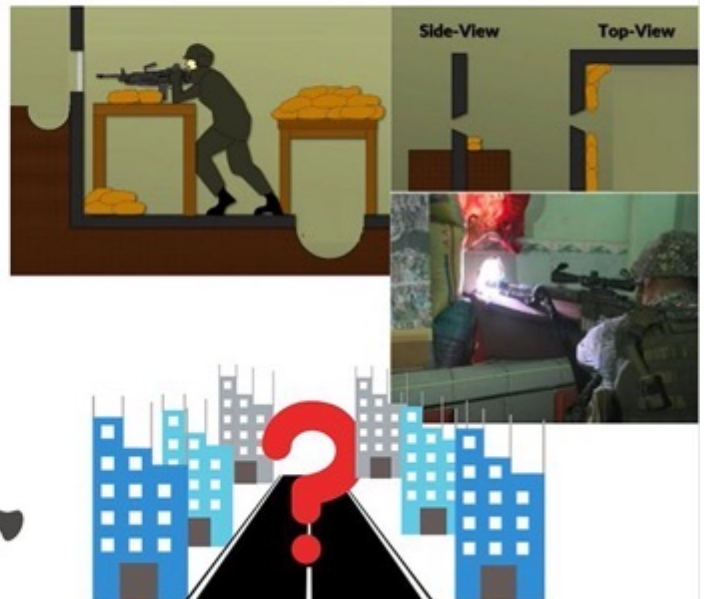
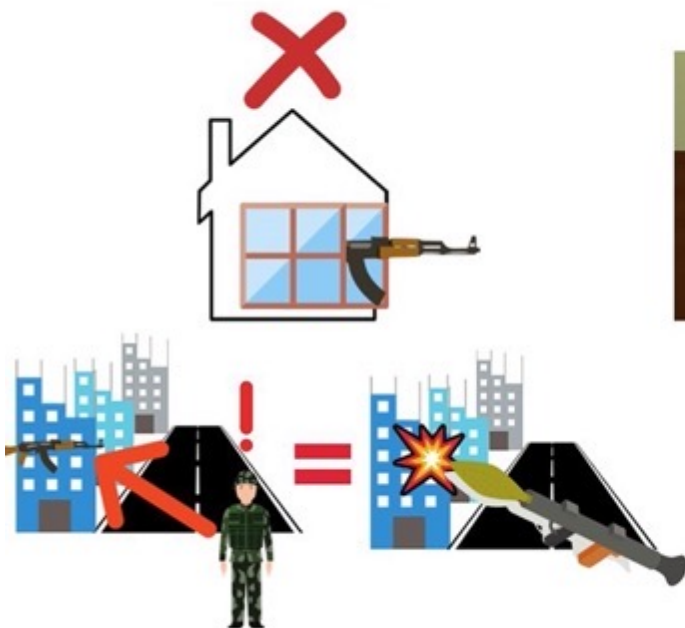
Shoot From Inside Buildings

There is no reason an urban defender should be visible from the sky or street by the approaching attacker when in their attack positions. Do not stick weapon barrels out of windows. Stay back and shoot from inside the rooms to reduce visibility.

Militaries fear snipers. Turn every window into a possible sniper position. Fire through rooms and buildings to the outside.

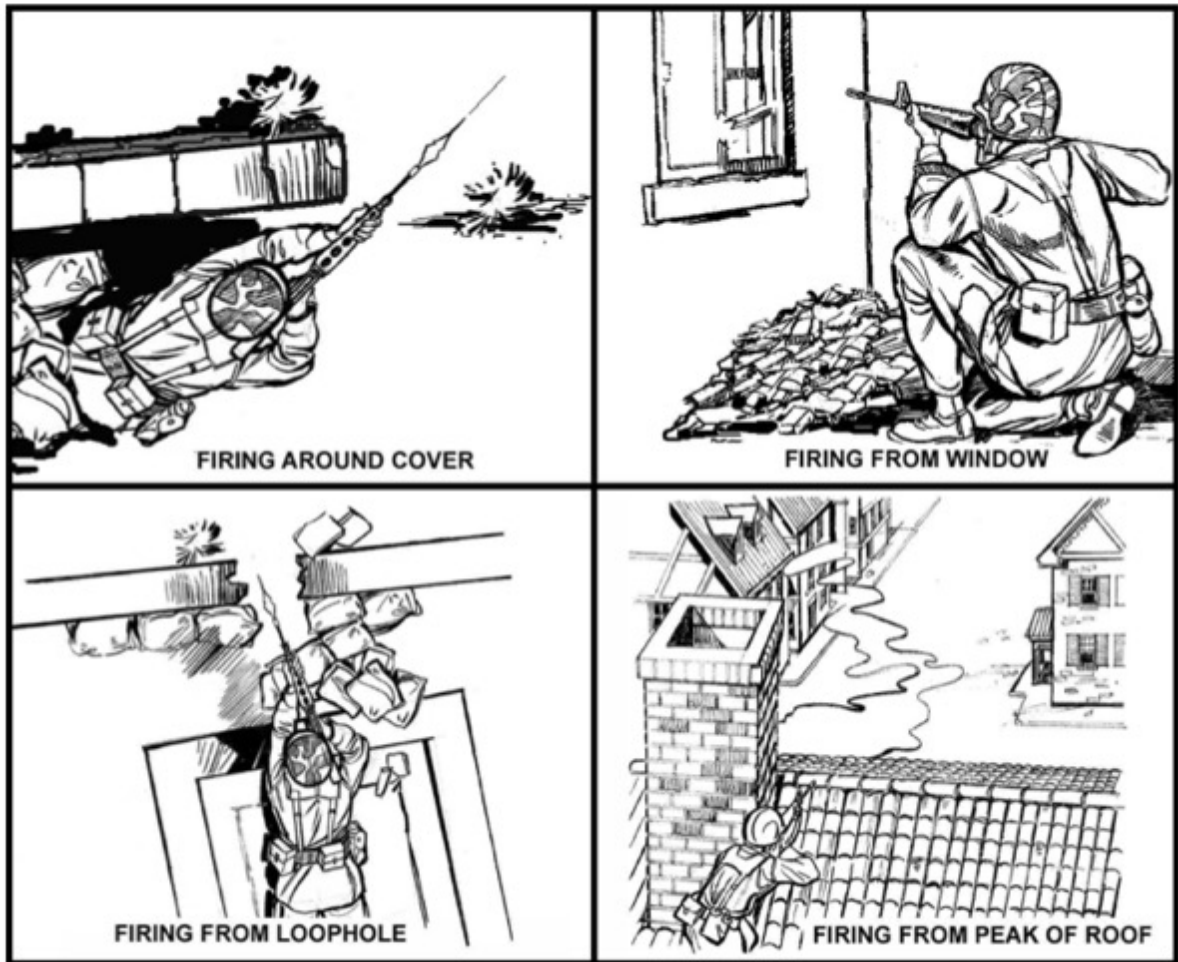
Don't stick weapons out of the windows

Inside you are invisible



Plan Deliberately Where to Shoot

Again, your survival in order to fight is important, so think hard about where you will shoot. Choose elevated positions down long streets; shoot and run; employ ambushes. Aim for the windows and doors of non-armor vehicles or soldiers in the open. Snipers are one of a soldier's greatest fears.

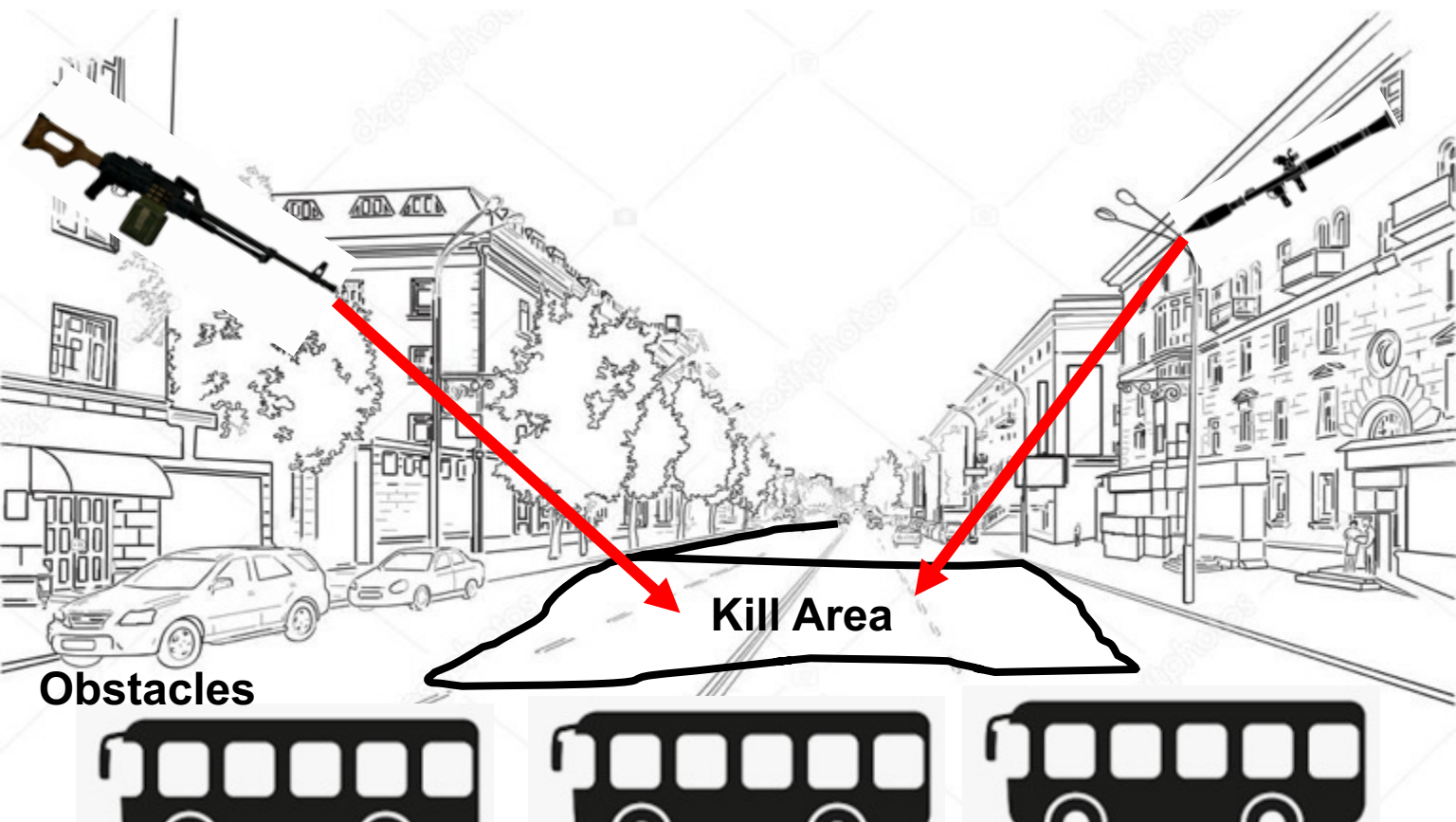


Build Engagement Areas (Kill Zones)

One of the most powerful defense tactics is the establishment of engagement areas (kill zones...places the enemy will die).

7 simple steps to build a kill zone (adjusted for simplicity):

- Identify all likely ways the enemy will come.
- Determine what the enemy will do/try to do.
- Determine where you want to kill the enemy.
- Plan and integrate obstacles (to slow/stop them)
- Decide where to hide and shoot from.
- Plan and integrate indirect fires (to include molotov cocktails) .
- Practice the plan multiple times.



Use Hit and Run Attacks

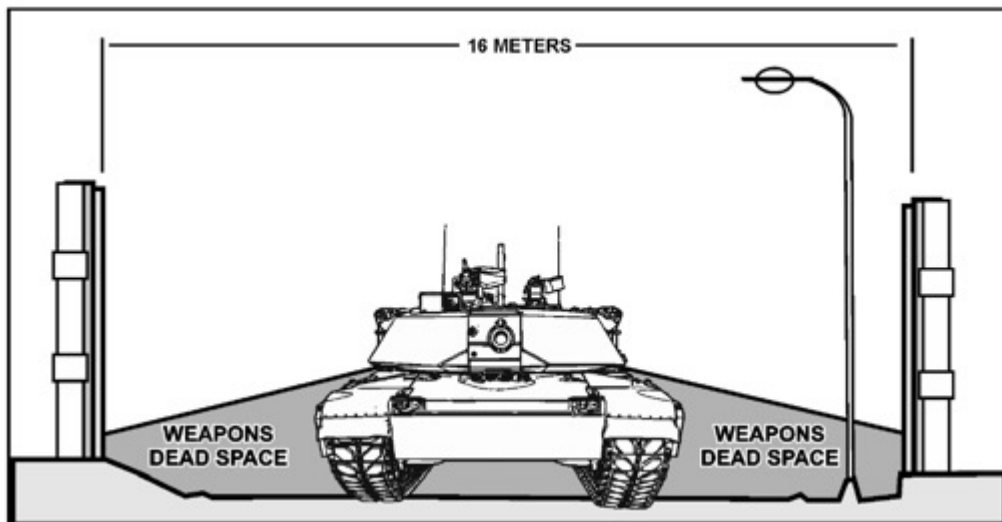
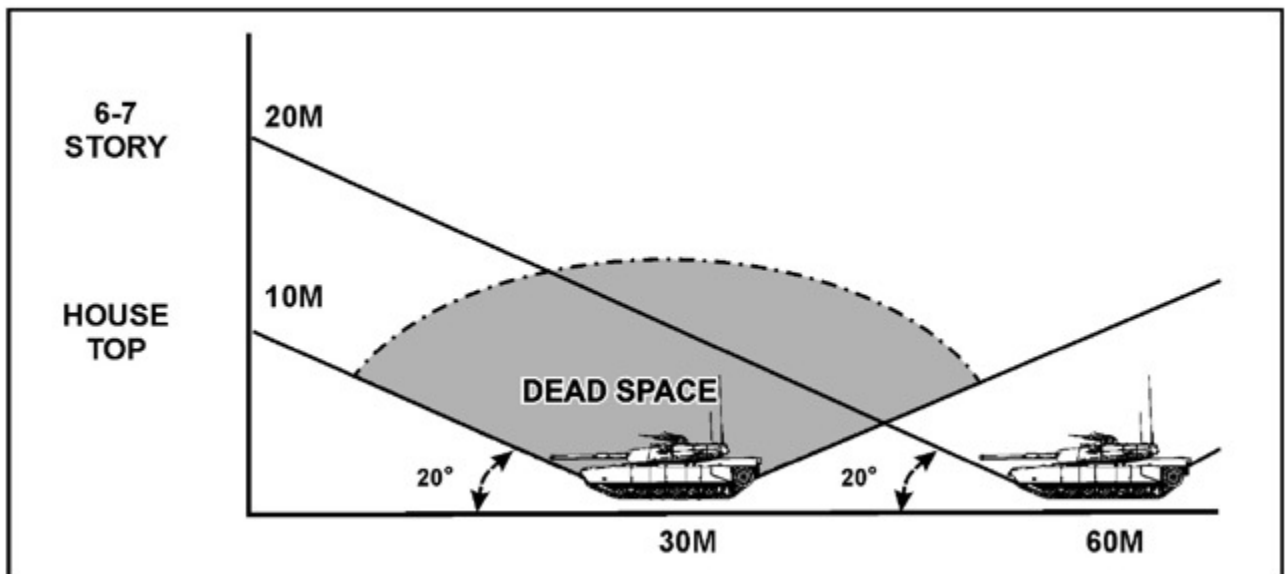
Use hit-and-run, anti-armor ambushes. At the First Battle of Grozny, small groups of 3-5 fighters armed with only AK-47s, grenades, and RPG-7s or RPG-18s, engaged armored vehicles from either basements or upper stories of buildings, where main tanks and other weapons could not effectively return fire. They would strike the first and last vehicles to trap the others inside their trap, hitting then moving away.



Tanks

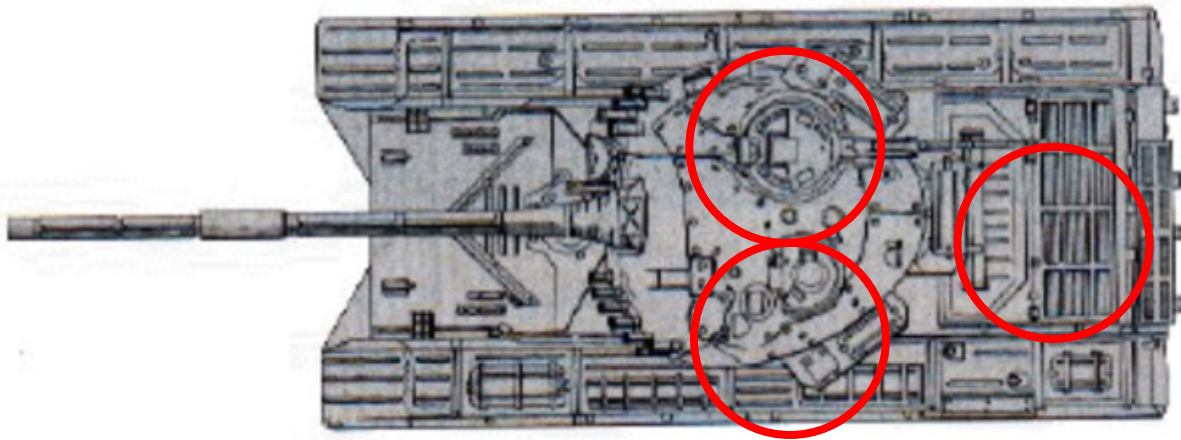
The attacker of a city in high intensity combat must have tanks to go inside the city. They need tanks, infantry, engineers, artillery and more. But they really need tanks. The defender should prioritize destroying tanks.

Tanks cannot elevate their guns to higher levels or lower levels of buildings. When planning to attack one, be where it cannot shoot.



The Top of The Tank is Weak

The most vulnerable spot on any tank is the top where the armor (steel) is thinnest. That is why they fear the Javelin and other anti-tank armaments that are “top-attack” weapons, which fly up into the sky and then come down on top of the tank. If the defender has rocket-propelled grenades that cannot penetrate thick armor or anti-tank hand/rifle grenades, it is best to be on the upper floors of buildings and drop them onto the tanks.



A closed tank relies on optics that could be blinded

Defenders may not be able to destroy a tank, but they can make it not work or not work as well. One way to do this is to blind the tank, impacting the vision of the soldiers inside. This is possible by shooting at the vision block (places they look out – outlined in red below), especially with large caliber weapons such as rocket-propelled grenades (RPGs).

The upper left is the tank commander vision block. The upper right is likely the loader independent viewer (depending on model of tank), while the area on the tank front, under the the main gun is the driver vision block. Shoot or throw things to break or cover these ports.



Using Molotov Cocktails

Molotov cocktails can be effective weapons if used properly. Throw them from protected sites, at the right targets, and at select spots on vehicles.

Think about where you will stand to throw (then run). Dropping from windows above vehicles most ideal. Vehicles without weapons on top the most vulnerable, but if it is armor, choose where to hit.

Vulnerable places of the enemy's equipment

windshields, hatches,
tires, air intakes (grills)



Molotovs & other close tank attacks

Molotov cocktails will likely have very little to no effect on a tank that is closed. If the tank hatches are open, Molotov cocktails may be effective, may cause a tank to slow/stop to support an ambush with anti-tank or other better tools.

Two Molotov cocktails are better than one such as a volley from both sides of a street from upper floors.



Attacking Aircraft and Drones

Small arms can be used on slow moving aircraft (helicopters and planes) and drones by incorporating the use of volume fire and proper aiming points according to the target.

If defenders are trained to apply an appropriate sequence of engagement techniques for aircraft and drones based on the rules for selecting an aiming point, the response will be automatic upon alert. It must be practiced.

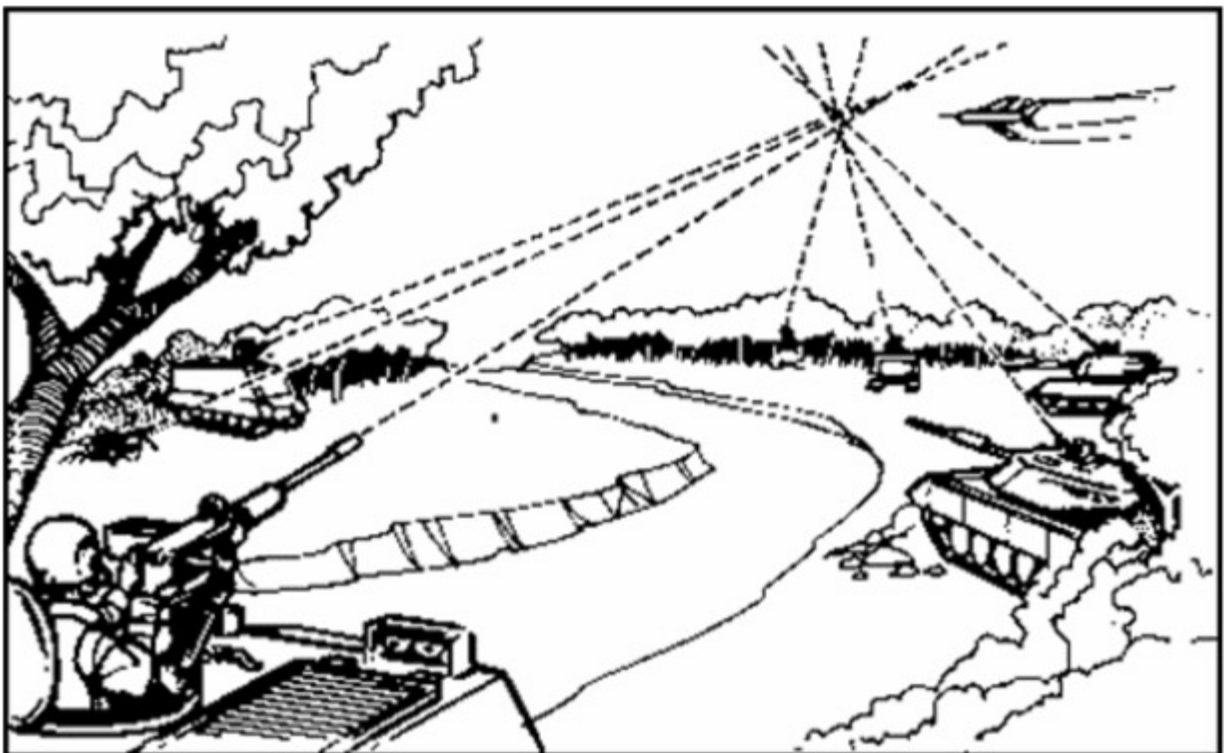
Defenders can have effective air defense using the small arms.

Volume Fire

To engage aerial platforms effectively, defenders must follow some basic rules.

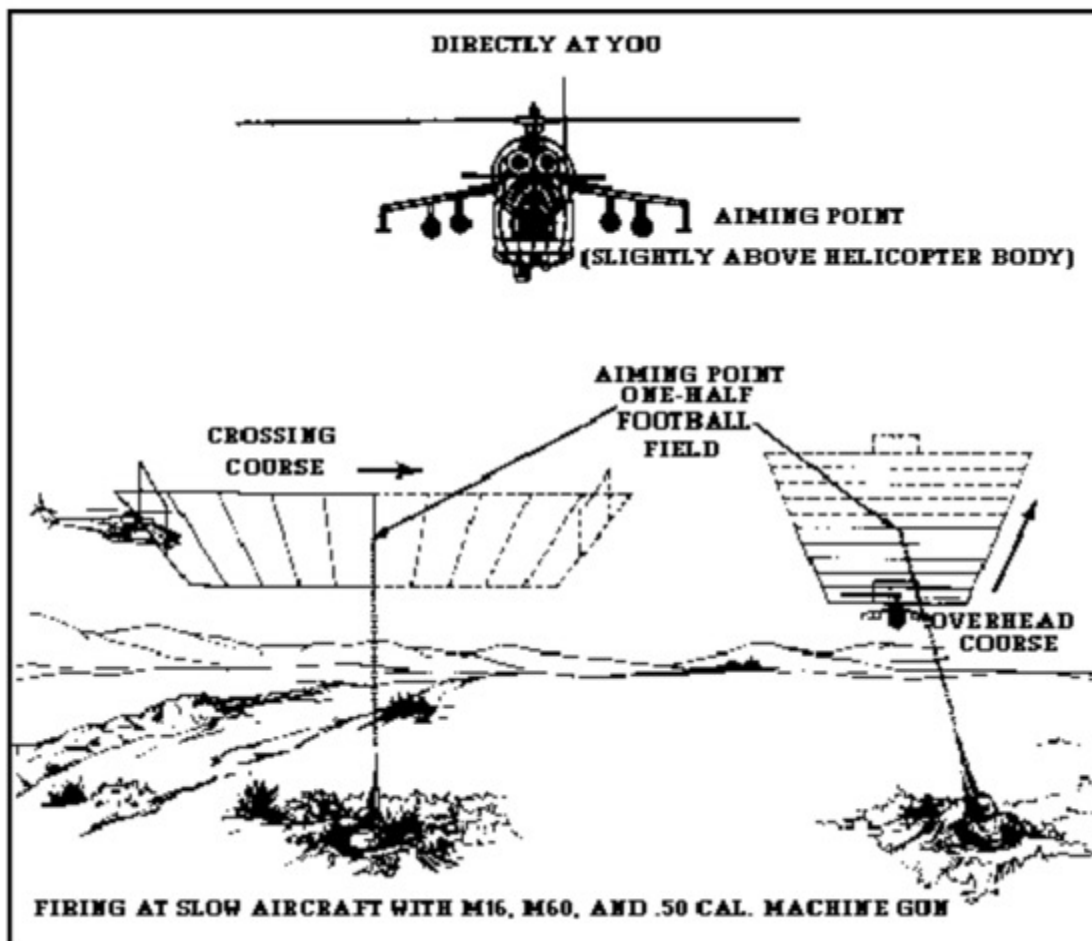
The first rule to follow is to use a technique known as volume fire (see image below). The key to success in engaging enemy air is to put out a high volume of fire. The more bullets a group can put in the sky, the greater the chance the enemy will fly into them.

One of the most important points about volume fire is that once the lead distance is estimated, defenders must aim at the estimated aiming point and fire at that single point until the aircraft/drone has flown past that point. Maintain the aiming point, not the lead distance. Once you start firing, do not adjust your weapon.



Football Field Technique

The football field technique is a simple method of estimating lead distance. Most people have played or watched football and have a concept of how long a football field is. When told to lead the target by one football field, everyone aims at approximately the same point in space. One defender's error in making the football field estimate will be offset by another defender's error. The variation in aiming points will ensure that massed fire is delivered into a volume of space in front of the target rather than on a small point. Also, the differing perspectives from which the soldiers view the target will act to further distribute the fire over a volume of space. See image below (helicopter aiming points).

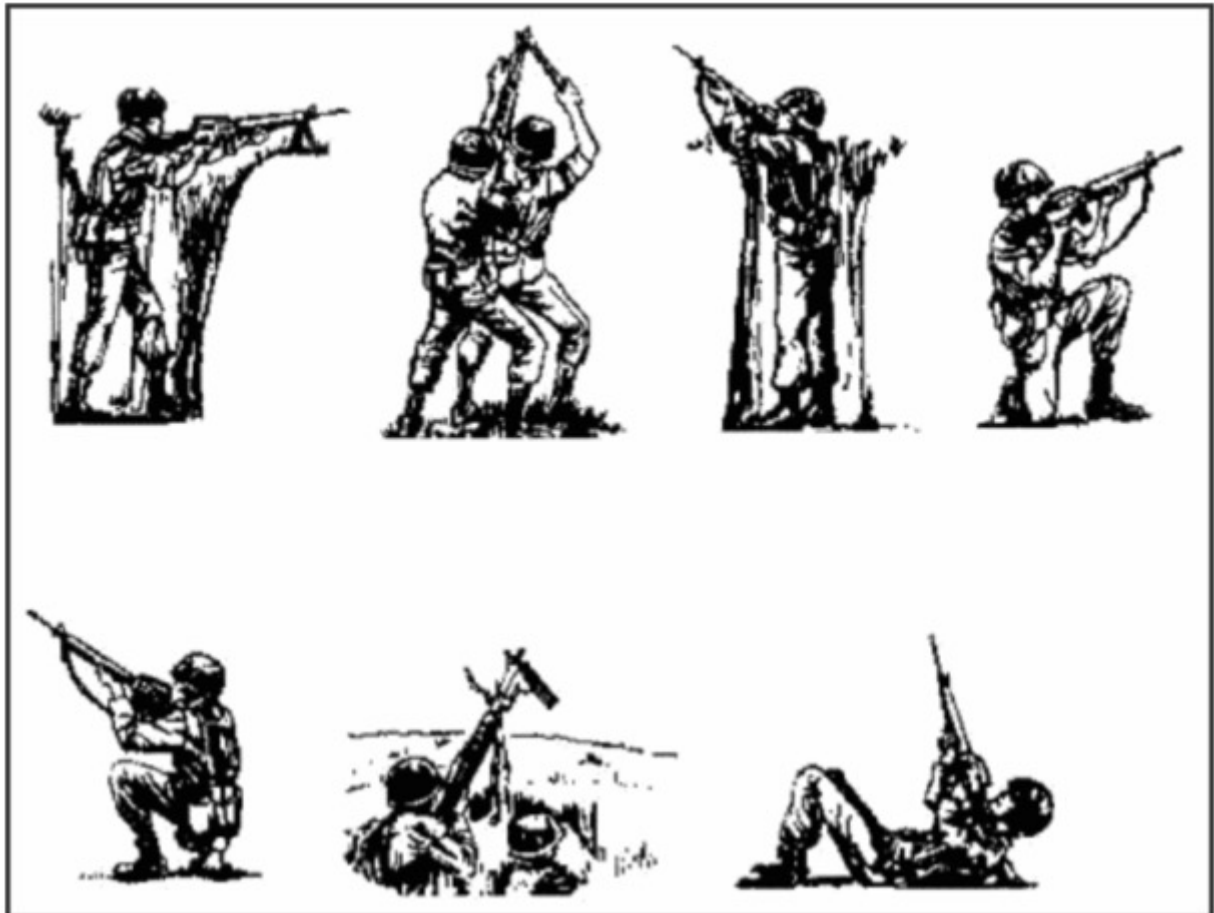


Firing Positions for Air Defense

Defenders can use all the basic firing positions for air defense except the prone position. Instead, use the reverse position; lie on your back (supine) and point your weapon upward. See image below.

Firing at aircraft when lying down means the individuals are lying on their backs (supine), aiming their rifles into the air.

Always take cover when available.



The Ambush

The urban defender can employ ambushes in support of their overall area or mobile defense. Preferably they should maximize the urban terrain but can also be employed on vulnerable routes such as roads between urban areas.

The ambush maximizes the greatest surprise in a planned and practiced military tactic. It must be executed with extreme caution.

An ambush is a surprise attack from a covered and concealed position on a moving or temporarily halted target.



There are two categories of ambushes: **hasty** and **deliberate**.

There are three types of ambushes:

Point. In a point ambush, defenders deploy to attack an enemy in a single kill zone.

Area. In an area, defenders deploy in two or more related point ambushes.

Anti-armor. An anti-armor ambush focuses on moving or temporarily halted enemy armored vehicles.

There are two formations the **linear** and **L-shaped**

Principles of the Ambush

Security – The urban defender must always protect themselves. In conducting an ambush securing and protecting the group is critical. Plan to secure the ambush group getting to the ambush site, when doing the ambush, and escaping. A security team is always the first people to move into their position at the ambush.

Surprise – The ambush must be a surprise to the enemy. When and where the enemy least expects it. That is why it takes a lot of planning, stealth, and discipline to do an ambush. If you lose surprise, all is lost.

Violence of Action – An ambush requires overwhelming fire superiority and aggressive action. Both must be maintained throughout the ambush.

Coordinated Fire – The ambush should isolate the kill zone to prevent the enemy escaping or being reinforced by other enemy. All weapons should be used including mines. The leader of the ambush makes sure all weapons are used at the same time to inflict the maximum damage on the enemy in the opening seconds.

Control – The leader must control the actions of each group in the ambush to include during moving, waiting in the ambush and getting away. Controlling the ambush group when the enemy gets close is critical.

Best Why to Organize for an Ambush

- **Leaders** – There should be a single leader of the ambush and a leader of each team.
- **Assault Team** – The assault team will shoot during the ambush. They will seize and secure the ambush area. They protect the defenders that will go into the kill zone/ambush to do special things like pickup enemy weapons.
- **Support by Fire Team** – The guns/fighters that will provide direct fire support to the ambush.
- **Security Team** – Fighters that will be put in place first before other elements can be emplaced, provides local security for squad, provides early warning, isolates the objective and supports the withdrawal

Thinking Before the Ambush

After organized to do an ambush, the urban defenders should think and plan for doing an ambush. A common tool for military groups to think and plan an ambush is mission, enemy, time, terrain, and troops available.

Mission - All members of the ambush group must know what they are supposed to do, their exact job and duties, and why they are doing the ambush. Every defender must understand.

Enemy – The ambush group must think about the enemy. Never attack an enemy the group can't overwhelm with the tools they have. Think of the type and size of the enemy you will or won't attack. Think about what the enemy will likely do in the ambush. Will support come to them? Can they call for help? What weapons and equipment will they have?

Time – The ambush group should think how much time it will take to get to the ambush location, time to setup, how long they will wait hidden once setup. Will they do at day and night?

Terrain – The ambush group thinks about choosing the best place to do the ambush. How to get there. How to use the urban terrain, roads, obstacles to help keep surprise and conduct the ambush.

Troops – Available – How many defenders are available to do the ambush. How many are needed in each team?

Deliberate, Point Ambush

A strong type of ambush is a deliberate, point ambush that is planned ahead in great detail and again conducted against a specific target at a predetermined location.

A point ambush is where the defenders deploy to attack an enemy in a single ambush with one kill zone.

The ambush leader and team requires detailed information in planning a deliberate ambush. To include:

- Size and composition of the enemy
- Weapon and equipment available to the enemy
- Enemy's route and direction of movement
- Location and time of ambush

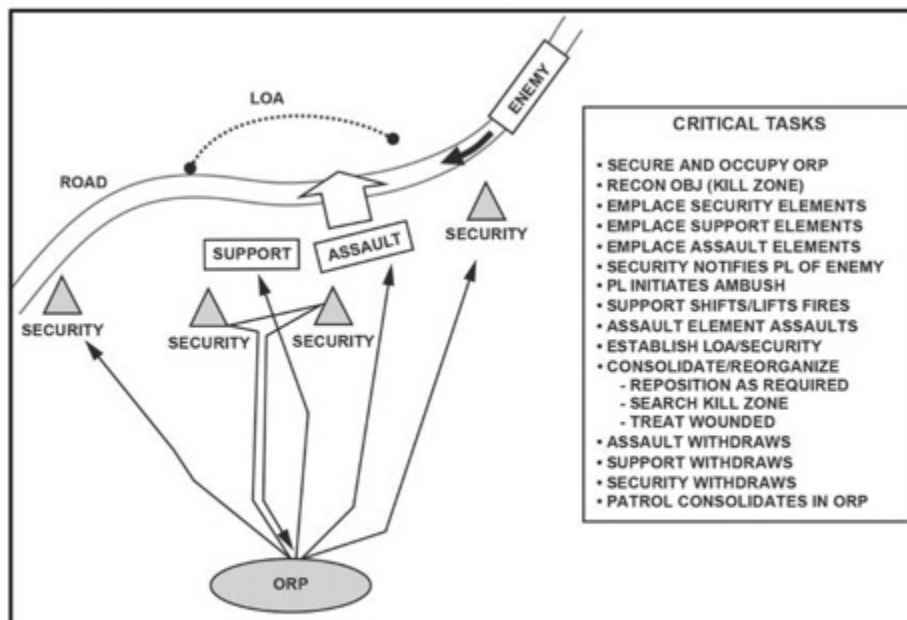


Figure 7-4. Deliberate ambush

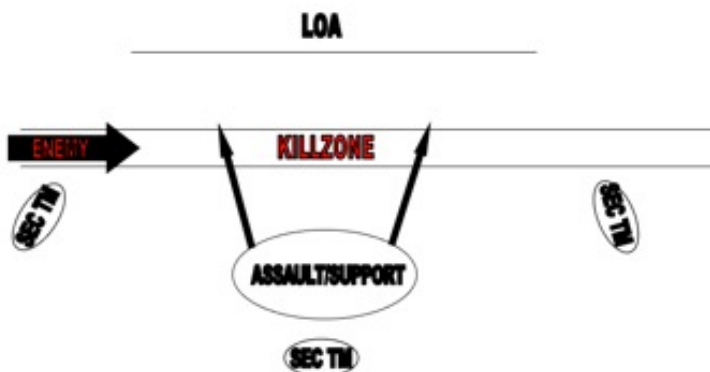
LEGEND

LOA – limit of advance; OBJ – objective; ORP – objective rally point; PL – platoon leader; RECON – reconnoiter

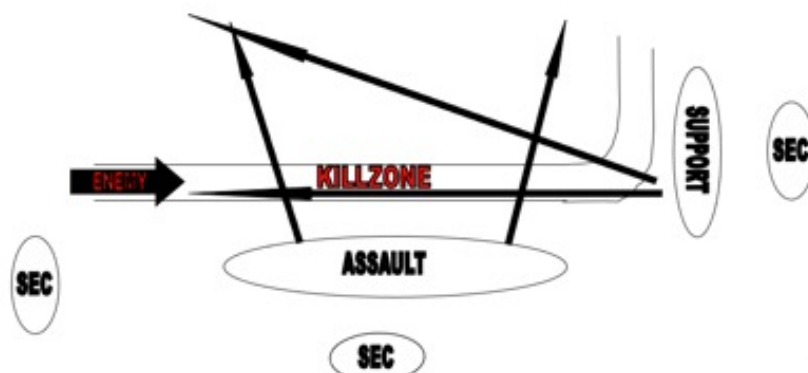
Picking the Ambush Location and Formation (1)

The urban defender picks the best location for the ambush to maximize the use of surprise and success.

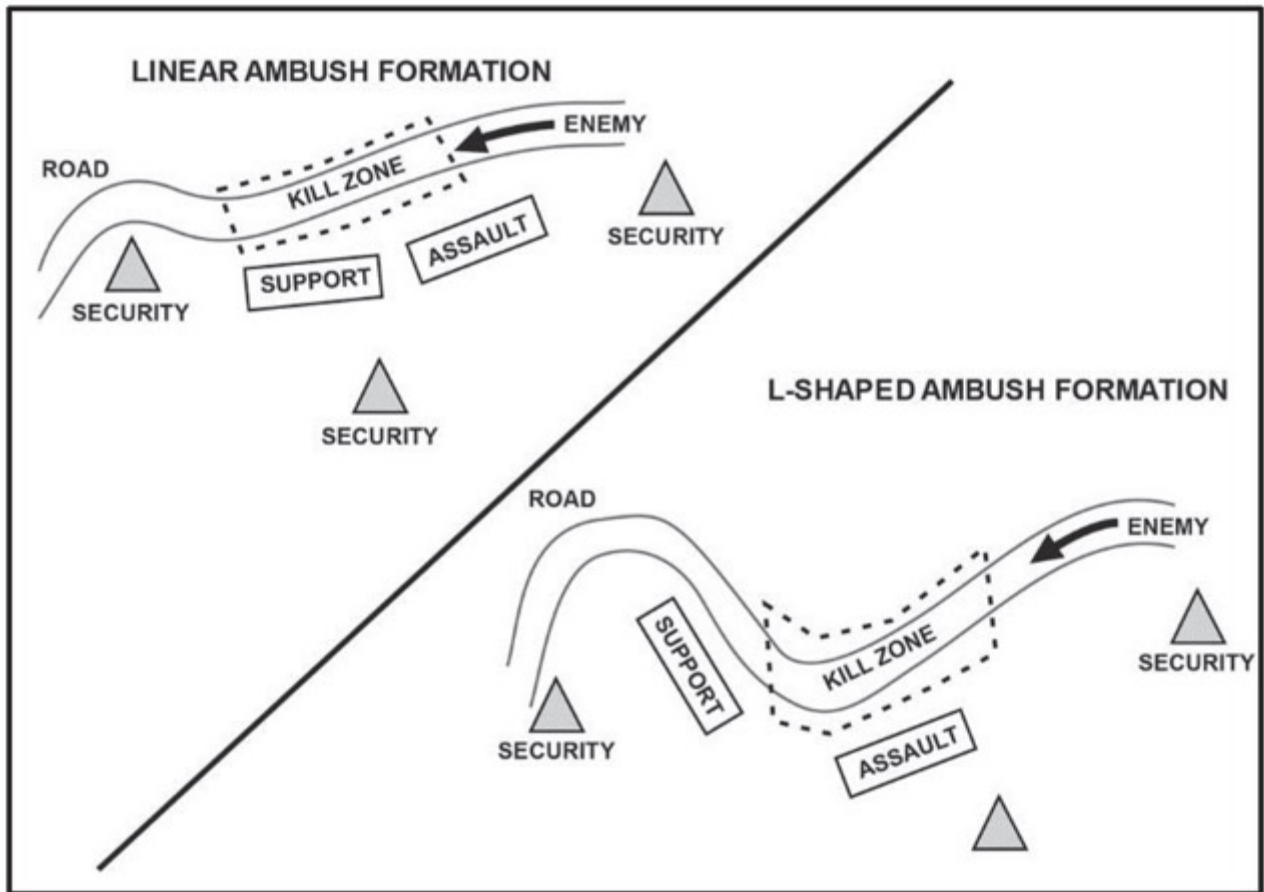
Linear. In an ambush using a linear formation, the assault and support teams deploy parallel to the enemy's route. This positions both elements on the long axis of the kill zone and subjects the enemy to fire on their side. This formation can be used in close terrain that restricts the enemy's ability to move against the ambush team or in open terrain, provides a means of keeping the enemy in the kill zone.



L-shaped. In an L-shaped ambush, the assault team forms the long leg parallel to the enemy's direction of travel into the kill zone. The support teams forms the short leg at one end and at a right angle to the assault team. This provides both flanking (long leg) and enfilading (short leg) fires against the enemy. The L-shaped ambush can be used at a sharp bend in a trail, road, or stream. It should not be used where the short leg would have to cross a straight road or trail.



Picking the Ambush Location and Formation (2)



Ambush formations

Tips for doing an Ambush (1)

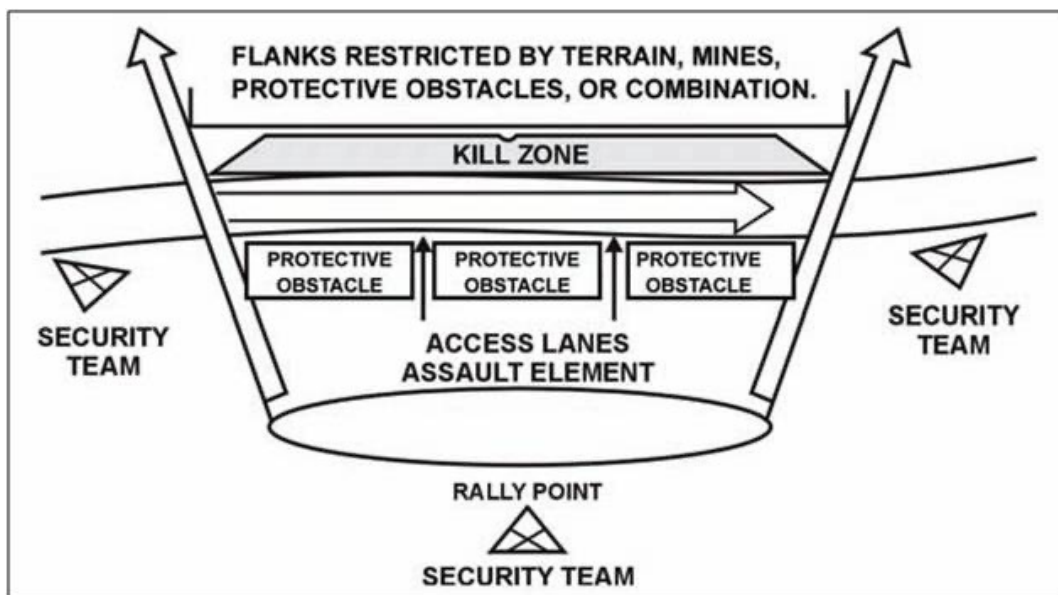
*An ambush is a very dangerous military operation and should be executed by trained individuals, with a LOT of planning, and with extreme caution

The ambush must surprise the enemy. If surprise is lost, the defenders must get away.

The leaders check each fighter to make sure they know the plan for setting up and doing the ambush.

The security teams on both side of the ambush always go in first. They keep the others safe. They let the leaders know when the enemy is coming. Make sure it is the enemy they planned and seal the ambush so the enemy cannot escape.

The leaders look at the ambush site to make sure it is what was planned. This can also be done with a drone to ensure the ambush group stays hidden. Do not walk all the way up to the ambush site.



Tips for doing an Ambush (2)

The ambush group should put protective obstacles, even mines if they have them, to make sure the enemy does not come towards them once the ambush starts.

The leader controls when the ambush starts.

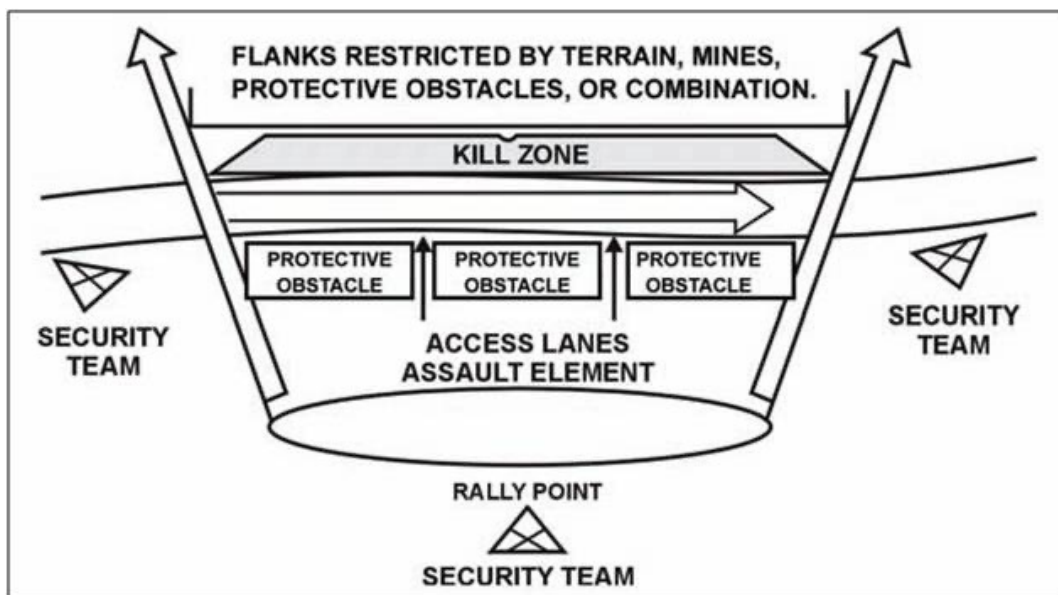
Always start with the biggest mine, gun, weapon the ambush team has.

Once one defender fires, everyone must fire.

The leader can designate some of the defenders to run into the kill zone to ensure the enemy is dead and take any weapons or equipment.

The ambush group must plan to get away very fast after doing the ambush. There may be more enemy coming to help. Use a watch to time how long. Do not stay there more than a few minutes.

When leaving, leave a security team in position. They should be the last to leave to protect the group.



Casualty and Fighter Care

Fighting in urban terrain leads to higher casualties for both attacker and defender. The defender must be prepared to do self-care and care of wounded.

Medical Items For a Combat/Survival Kit

The urban defender uses the tools they have. Here is a recommended minimum to provide a starting point for combat medicine capabilities. Many may not be available, but some may.

- Pocket knife/medical scissors
- Emergency blanket
- Roll of Duct tape with peel-away backing
- Heavy duty canvas sewing needle
- Assorted dressings
- Assorted bandages
- Clean rags and blankets
- Combat Gauze
- Tourniquets, SOFT-T or combat application tourniquet (CAT), Israeli bandage, or make-shift tourniquets.
- Multi-purpose items that can be used for multiple tasks
 - Bandanas, the larger the better (compress, sling, bandage, and eye patch)
 - Rigid devices (boards, sticks, poles) varying lengths

Basic Medical Lifesaving

M.A.R.C.H. is an acronym used to help identify and treat injuries in a combat situation in the most effective order to prolong life until the wounded can reach higher medical care.

- M - massive bleeding
- A - Airway
- R – Respiration/breathing
- C - Circulation
- H - Hypothermia

Stop Massive Bleeding (1)

HOW TO RECOGNIZE MASSIVE, LIFE-THREATENING BLEEDING

BRIGHT RED BLOOD is pulsing, spurting or steady bleeding from the wound

Overlying clothing or ineffective bandaging is becoming **SOAKED WITH BLOOD**

BRIGHT RED BLOOD is pooling on the ground

AMPUTATION of the arm or leg

IMPORTANT! Casualties with severe injuries can bleed to death in *as little as 3 minutes*

3 MIN



Three tools in your first aid kit can be used to **CONTROL MASSIVE BLEEDING!**

TOURNIQUET **HEMOSTATIC DRESSING** **PRESSURE BANDAGE**




A **TOURNIQUET** cuts off blood flow to an arm or leg past the application site; this is the best method to control massive bleeding

APPLY A TOURNIQUET AND STOP BLEEDING WITHIN

1 MIN

WHEN AND HOW TO APPLY A TOURNIQUET (TQ):

- CARE UNDER FIRE/THREAT**
HASTY TQ "High and Tight" on the wounded extremity or when the bleeding source is uncertain
- TACTICAL FIELD CARE**
DELIBERATE TQ applied 2-3 inches above the wound
- Apply a **SECOND TQ** if bleeding is not stopped with one properly applied TQ (Note: a severe bleeding wound to the thigh frequently requires a **SECOND TQ**)



Stop Massive Bleeding (2)

APPLY DIRECT PRESSURE AND PACK WOUND



PACK tightly using a **HEMOSTATIC Dressing** that contains a special agent that promotes blood clotting or a clean cloth, if dressing not available



APPLY FIRM, DIRECT PRESSURE for at least 3 mins or until the bleeding stops

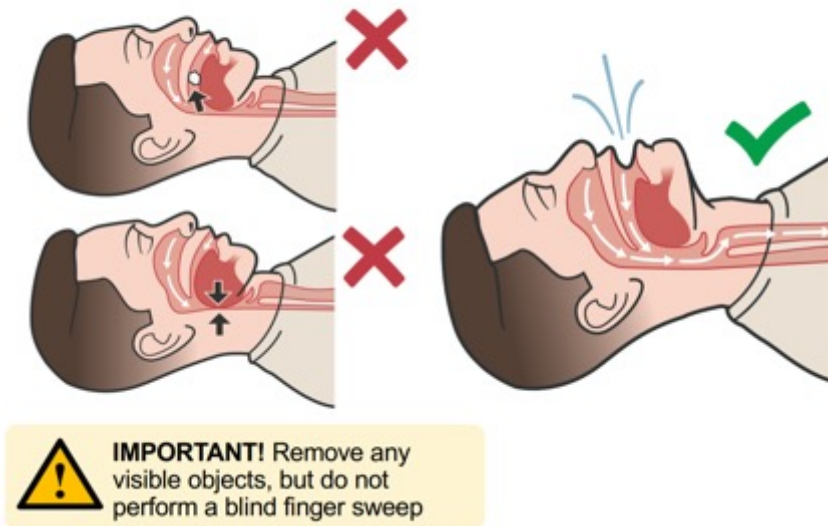
WRAP BANDAGE tightly around injured extremity



APPLY using short tugs evenly around the extremity while maintaining continuous tension on the bandage so pressure is maintained

Airway Must Be/Stay Open (1)

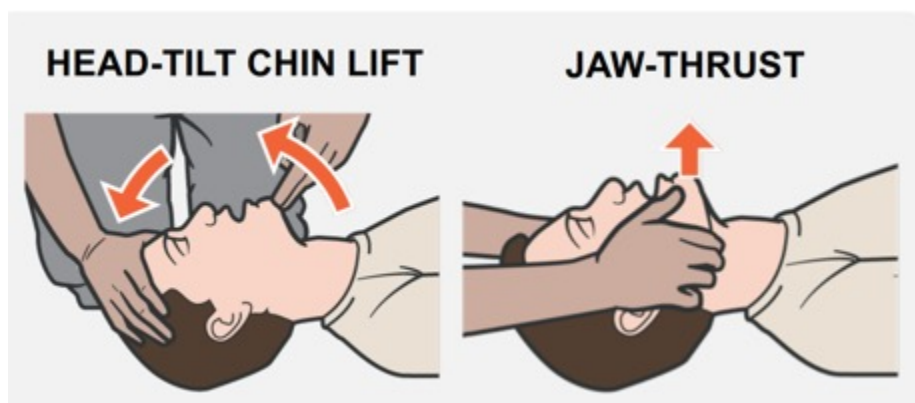
Ensure **AIRWAY IS NOT BLOCKED**



Signs and symptoms the airway might be blocked:

- Casualty is in distress and indicates they can't breathe properly.
- Casualty is making snoring or gurgling sounds.
- There is visible blood or foreign objects in the airway.
- Severe trauma to the face

In a casualty without an airway obstruction, you can perform the following maneuvers:



Airway Must Be/Stay Open (2)

For an unconscious casualty not in shock, place them into the **RECOVERY POSITION**



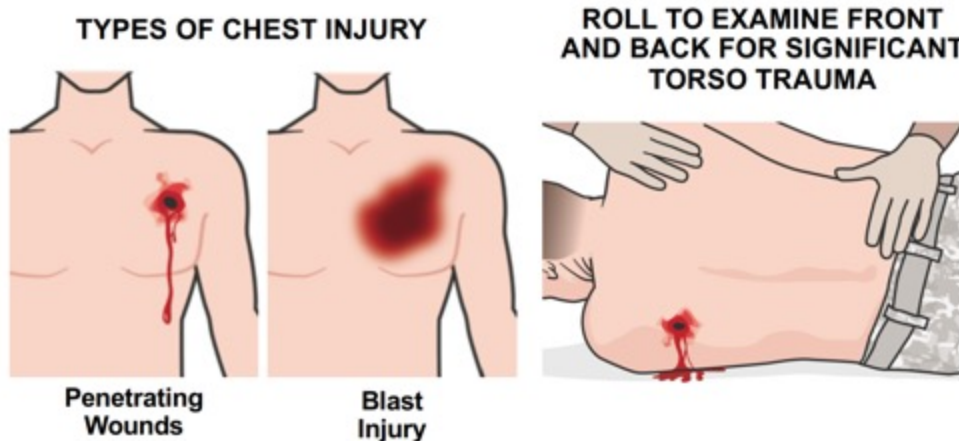
Assist a conscious casualty by helping them assume any comfortable sitting-up position that **ALLOWS THEM TO BREATHE EASILY**



Assess Respiration

Signs of respiratory distress can include:

- Difficulty breathing
- Struggling to get air in and out
- Breathing too weak to be effective (less than 6 breaths a minute)
- Rapid breathing (more than 20 breaths per minute)
- The above could indicate an underlying chest injury.



DO NOT PACK WOUNDS IN THE CHEST OR ABDOMINAL AREA!

Seal the chest with an occlusive dressing the plastic wrapper off of the bandage.

Circulation/Shock

PREVENT SHOCK by controlling bleeding

#1- Reassess all bleeding control measures are still effective. Ensure tourniquets remain tight

Option: Consider elevating both legs higher than the casualty's heart, if their airway tolerates lying flat on their back



Take steps to prevent shock

- Reassess all bleeding control measures are still effective.
- Ensure any tourniquets are still tight.
- If tolerable to the casualty and their wounds, elevate the legs.

Signs and symptoms of shock include:

- Rapid breathing
- Losing focus or having difficulty engaging
- Sweaty, cool, clammy skin
- Pale or gray skin

SIGNS AND SYMPTOMS OF SHOCK INCLUDE:



Hypothermia

Hypothermia is a potentially dangerous drop in body temperature, usually caused by prolonged exposure to cold temperatures. It must be monitored, prevented, or addressed due to massive blood loss not cold weather.

Signs and symptoms of hypothermia:

- Slurred or mumbling speech
- Shivering
- Slow breathing and drowsiness



Help prevent hypothermia by doing the following:

- Keep clothing on casualty unless it is extremely wet, then remove
- Get the casualty off the ground
- Cover the casualty with blankets, sheets or any material that will retain heat.

Secondary Injuries

In addition to the lifesaving M.A.R.C.H, you may need to address other injuries to include:



eye trauma



head injury



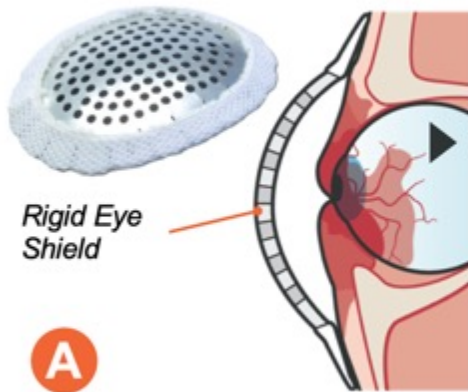
burns



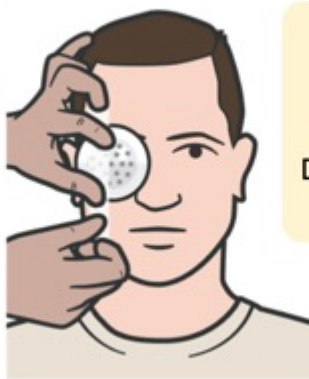
fractures

Eye Trauma

IF A **PENETRATING EYE INJURY** IS NOTED OR SUSPECTED, SHIELD THE INJURED EYE



Cover the eye with a **RIGID EYE SHIELD**, *not a pressure patch*. Place the shield over the injured eye (not both eyes) and tape in place




IMPORTANT!
DO NOT APPLY
PRESSURE



If no rigid eye shield is available, **TACTICAL EYEWEAR** can also be used to protect the eye

Head Injury

ASSESS FOR HEAD INJURY



Result of blunt force, acceleration, or deceleration forces (i.e., *explosion or blast events, motor vehicle collision or roll-overs, fall or sports injury*)



Usually **gunshot wounds, stabbings, or fragmentation** from explosives

BLUNT AND PENETRATING HEAD TRAUMA

SIGNS AND SYMPTOMS OF HEAD INJURY INCLUDE:

- | Altered consciousness
- | Disorientation or dizziness
- | Headache
- | Ear ringing
- | Amnesia
- | Nausea/vomiting
- | Double vision



IMPORTANT! REPORT signs and symptoms of a head injury to medical personnel at the scene

Burn Care

BURN CARE



COVER
the burn area
with dry, sterile
dressings



COVER
the casualty to
prevent heat loss
and keep the
casualty dry

IN CASE OF ELECTRICAL INJURY



Secure the power, if possible.
Otherwise, remove the casualty from the
electrical source using a nonconductive
object such as a wooden stick. Move the
casualty to a safe place.

Fractures

WARNING SIGNS OF A FRACTURE:

- Significant pain and swelling
- An audible or perceived “snap”
- Different length or shape of limb
- Loss of pulse or sensation in the injured arm or leg
- Crepitus (hearing a crackling or popping sound under the skin)

APPLICATION OF A SPLINT



A splint is used to prevent movement and hold an injured arm/leg in place. Use a semirigid splint (like a SAM splint) or improvise using rigid or bulky materials (e.g., boards, boxes, tree limbs, and even weapons):

- Incorporate the joint **ABOVE AND BELOW** the fracture
- SECURE THE SPLINT** with an ace wrap, cravats, belts, or duct tape (if available)
- Try to **SPLINT** before moving the casualty and minimize movement of the fractured extremity



Arm fractures can easily be secured to the shirt using the sleeve as a sling



IMPORTANT! If the bandage is too tight, it can decrease circulation to the fingers or toes

Get Wounded to Safety and More Care

The defenders needs to be ready to move their casualties to safety and care. They must make lots of homemade litters (2-person carry device). All that is needed is poles (wood/metal/plastic) and a material (blankets, jackets, tarps), like:

Improved Litter Using Blankets and Poles

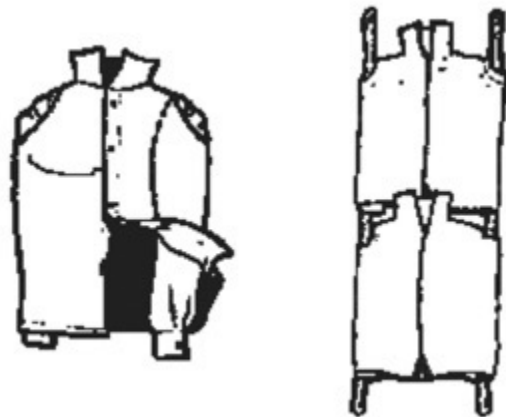
To improvise a litter using blankets and poles, the following steps should be used:

- Open the blanket and lay one pole lengthwise across the center; then fold the blanket over the pole.
- Place the second pole across the center of the folded blanket.
- Fold the free edges of the blanket over the second pole and across to the first pole.



Improved Litter From Shirts or Jackets and Poles

To improvise a litter using shirts or jackets, button or zip the shirt or jacket and turn it inside out, leaving the sleeves inside, then pass the pole through the sleeves.



Drinking and Purifying Water

The urban defender must drink water. You can survive only a few days without it. Dry mouth is a sign of dehydration, as are fatigue, headache, dry skin, not sweating, sunken eyes, muscle and stomach cramps, no urges to urinate over an extended period, and even blackouts and seizures. Know the signs.

Find and make water safe. Collect rain and snow. Always make sure water is safe to drink. If you are ever not 100% sure, purify the water. Drinking bad water can cause vomiting/diarrhea and lead to severe dehydration and death. You can purify water when you:

- Boil the water (to a strong boil).
- Add 2 eye drops of unscented household bleach to a liter.
- Add 5 - 10 drops of iodine.



Water Purification Tables

Table A-1. Chlorine dose calculator using five percent unscented household bleach and 70 percent high-test hypochlorite

For 5 Gallons of Water	Chlorine dose using 5 percent liquid (unscented household) bleach				
	1 mg/L	2 mg/L	5 mg/L	10 mg/L	100 mg/L
	6 dp	0.75 mL	1.9 mL	3.8 mL	8 tsp
	Chlorine dose using 70 percent high-test hypochlorite or solution concentrate				
	1 mg/L	2 mg/L	5 mg/L	10 mg/L	100 mg/L
	0.9 mL	1.7 mL	4.1 mL	8.3 mL	0.25 tsp
Legend: dp drops mg/L milligrams per liter mL milliliters tsp teaspoons					

A-10. Table A-2 identifies equivalent volumes for use by Soldiers when determining how much disinfectant is needed to produce potable water.

Table A-2. Equivalent volumes chart

	<i>dp</i>	<i>mL</i>	<i>tsp</i>	<i>tbsp</i>	<i>oz</i>	<i>cp</i>	<i>pt</i>	<i>qt</i>	<i>L</i>	<i>gal</i>
dp	1	0.067	0.013	0.004	0.002					
mL	15	1	0.200	0.067	0.033	0.0042	0.0021	0.0011	0.0010	
tsp	74	5	1	0.333	0.167	0.021	0.010	0.005	0.005	0.001
tbsp	222	15	3	1	0.500	0.063	0.031	0.016	0.015	0.004
oz	444	30	6	2	1	0.125	0.063	0.031	0.030	0.008
cp	3550	237	48	16	8	1	0.500	0.250	0.240	0.063
pt	7100	473	96	32	16	2	1	0.500	0.480	0.125
qt	14200	946	192	64	32	4	2	1	0.960	0.25
L	15000	1000	203	68	34	4.2	2.1	1.06	1	0.26
gal	56775	3785	768	256	128	16	8	4	3.785	1
Legend: cp cups dp drops gal gallon L liter mL milliliter oz ounce pt pint qt quart tbsp tablespoon tsp teaspoon										

*US Army Training Circular 4-02.3 Field Hygiene Sanitation

Rain and Snow

Rain - Fresh rainwater collected into containers does not require purification. However, rain that runs down buildings, leaves, and other vegetation or structures on its way to the container can contaminate the water and must be purified. Collect rainwater by putting out improvised nonporous items to catch the rain as it falls from the sky.

Snow – Use fresh, clean snow as a water source. Place containers filled with snow near a fire or between clothing layers to allow body heat to melt it. Adding water to snow will help it melt faster. Avoid directly eating snow as it lowers the body's temperature and requires the body to use more energy reserves than if the snow is heated externally.

Sanitation and Hygiene

Disease and sickness can kill more urban defenders than enemy bullets.

In the past, disease and nonbattle injuries have been the cause of up to 80 percent of casualties for even the world's best militaries. Now militaries practice strict hygiene and sanitation standards. The urban defender must do the same.

Keep Hands Clean

One of the most effective practices that defenders can perform to protect themselves and others from the spread of disease is to thoroughly wash or sanitize their hands frequently.

Defenders must sanitize their hands using alcohol-based hand sanitizer or washing with anti-bacterial soap. every time (at a minimum):

- Before eating or snacking
- After after eating
- Before handling or preparing food
- After using the restroom
- After handling anything that could potentially transfer germs



Keep Food and Water Clean

Bathrooms and places of human waste must be as far from food and food storage as possible (100 meters or more) to include wind and downslope.

Bathrooms and human waste must be downslope from wells, streams, and other water sources (30 meters or more).

Do not let flies touch your food.



Law of War

The urban defender must follow the law of war, also called the law of armed conflict. The overall principles of the law of armed conflict form the general guide for conduct during war. The principles are:

Military Necessity - Justifies the use of all measures required to defeat the enemy as quickly and efficiently as possible that are not prohibited by the law of armed conflict.

Distinction – Defenders must always clearly distinguish between combatants and civilians or the civilian population as such. Civilians are protected from attack but lose that protection whenever they take a direct part in hostilities for the time of their participation

Proportionality - Requires military commanders to refrain from attacks in which the expected loss or injury to civilians and damage to civilian objects incidental to such attacks would be excessive in relation to the concrete and direct military advantage expected to be gained. It also underlies the requirement to take feasible precautions to reduce the risk of harm to civilians, other protected persons and civilian objects.

Humanity - Basis of protection for civilians; forbids inflicting suffering, injury, damage, or destruction unnecessary to accomplish a legitimate military purpose. Weapons and tactics that are of a nature to cause unnecessary suffering or superfluous injury are prohibited.

Law of War (Conduct)

The rules of war are not optional. The urban defender follows the rules to ensure just execution and support of their cause and ultimately to reduce human suffering.

- Do not target civilians.
- Don't use civilians as human shields.
- Detainees and prisoners of war must be treated humanely.
- Do not torture or execute persons in your custody.
- Respect the principles of distinction and proportionality.
- Do not engage in indiscriminate (cannot distinguish between civilians and combatants) or disproportionate (military advantage is not proportionate to the collateral damage to civilians) attacks.
- Do not target civilian infrastructure such as hospitals, schools, electric power grids that civilians rely on.
- Take all feasible precautions to minimize and avoid incidental harm to civilians.
- Allow humanitarian assistance to the affected population and safe access to humanitarian workers to deliver aid.
- Do not kill or kidnap humanitarian workers or medical personnel.
- Investigate violations and hold persons accountable

Protecting Civilians

Defenders must help protect civilians. They have control over where military forces and equipment are placed in relation to the civilian population. The defender's tactical actions and overall strategy may contribute to the danger facing civilians. To avoid that:

1. Respect international humanitarian law and human rights law.
2. Issue guidance that protecting civilians is important. The best way to protect civilians is to move them out of the city and to a good shelter before the battle.
3. Avoid locating military objectives in civilian areas or from buildings that are used primarily by civilians such as schools, hospitals, residential and religious buildings, and co-locating with civilians to respect the principle of distinction and take constant care to not put civilians at risk during an attack.
4. Fighters must wear uniform or insignia distinguishing them from civilians (like arm bands).
5. Give warnings to civilians of incoming attacks through sirens, social media, SMS, loudspeaker to allow enough time for civilians to seek shelter.
6. Pre-position food, water, first aid in shelters for civilians.

7. Always allow humanitarian actors safe passage to provide food, water, medicine and transport of injured civilians between frontlines.
8. Mark protected areas clearly—schools, hospitals, religious sites, and shelters. Don't co-mingle with civilians.
9. Mark areas where there are unexploded ordnance (UXO) and explosive remnants of war (ERW) until the area has been cleared.
10. Identify safe routes for civilians to leave.
11. Provide first aid tips to civilians, distribute first aid and tourniquets to civilians.
12. Instruct civilians not to stand in balconies or near windows with binoculars or cameras as they can be mistaken for snipers.
13. Ensure civil defense is adequately equipped with fire blankets, rubble removal equipment, water treatment tablets, body bags, markers to cordon off dangerous areas, antidotes in the event of chemical or biological weapon attack.
14. Train and deploy medical teams that know how to treat gunshot wounds, fragmentation injuries, blast wounds, burns for adults and pediatric bones as bone structures are distinct.
15. Restore when feasible, essential services that civilians rely on such as water treatment facilities and electric power grids.

Treatment of Enemy Prisoners of War

The urban defender may find themselves capturing or taking charge of enemy prisoners. Always treat prisoners humanely. Follow the 5 S's of handling prisoners:

- **Search** - Search prisoners for weapons and ammunition, items of intelligence value, and any inappropriate items.
- **Silence** - Do not allow prisoners to speak (to include to each others) or allow anyone to speak to them. Speak to prisoners only to give orders.
- **Segregate** - Segregate prisoners by rank, gender, nationality, and status.
- **Safeguard** - Keep prisoners safe from harm according to the Geneva Conventions. This includes from the dangers of the battle. Provide prisoners medical care if needed.
- **Speed to the rear** - Remove prisoners from the battlefield and back to a rear collection point as quickly as possible.

Unexploded Ordnance (UXO)

In urban warfare, there will be many bombs, grenades, mortar, artillery and other rounds that do not explode. The enemy may also leave mines, booby traps and other things behind.

Treat all unexploded ordnance as live. They are very dangerous. Use the three R's:

Recognize – That they are there and very dangerous.

*Especially to kids and others who may approach.

Retreat – Do not disturb, touch, move, or go near it.

Report – To local authorities



Multi layered clothing

It is not possible to provide 100% protection against the effects of cold and wet weather. However, one can mitigate the effects very well by following a few principles. The most important of those being; layered clothing from feet to shoulders, woollen base layers are preferred over synthetic, making sure you never overdress in order to keep dry and making sure your body's thermoregulatory properties are working properly.

1. Inner layer – moisture transport

Cotton must never be used as inner layer as it absorbs water and does not keep its insulating properties when wet. Thermal mesh underwear is preferred

2. Middle layer – insulation

Garments used as a middle layer should have the following properties: Heating properties when damp, the ability to transport moisture, rapid drying time on the body, durability and comfort, low weight and volume

3. Outer layer – protection from extreme weather and wind

(Supplementary layer – extra insulation)



Mittens heat better than gloves so it easier to keep the hands warm. Should also preferably have a separate inner liner in wool

Leather boots - separate inner liner of insulation



Woolen socks - keep the feet warm even when wet and humid

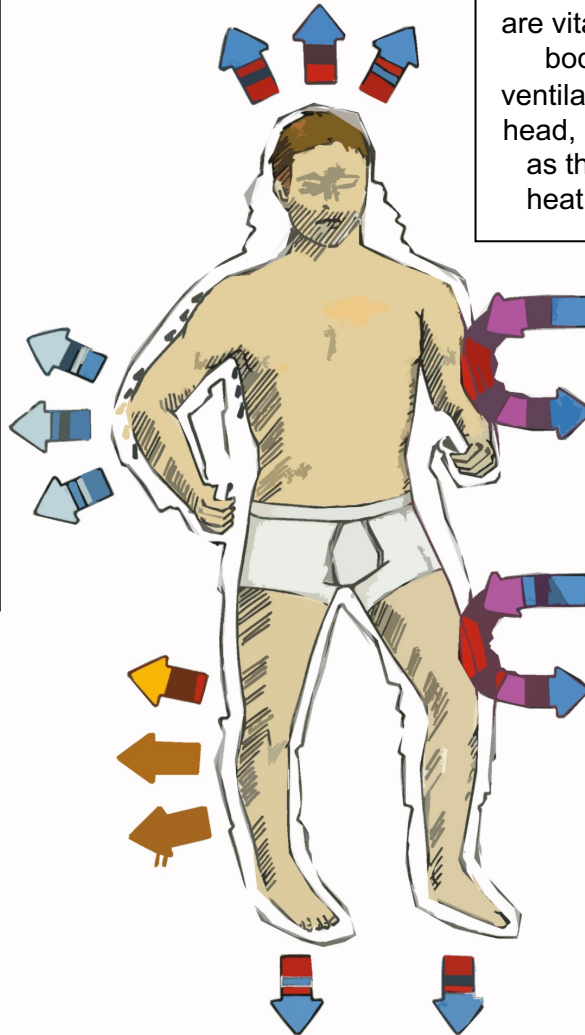
Keeping your feet dry and healthy is vital for any soldier's combat effectiveness. Good quality woollen socks, inner liner and felt soles for insulation should be separable from the boot so they can easily be dried when you have the chance. When you have a brake you should clean your shoes and apply a generous amount of wax and grease based shoe shine. Do not dry your boots too close to a heat source as it will deter the waterproofing capability of your boot. When needed a waterproof overshoe will further insulate your feet against extreme cold weather or keep your shoes dry when the conditions are wet or moist.

Heat loss from the body

Heat loss from the body primarily occurs in four different ways:

- During circulation The heated air layer closest to the skin flows away and is replaced by cold air. This is particularly noticeable in cold wind.
- During contact Contact between the body and the surface that an individual is lying or sitting on, for example the cold soles of shoes 'steal' the body's heat.

It is the so-called extremities (hands, feet) as well as the ears, nose and genitals that are most vulnerable to the cold. Small, cylindrical parts of the body such as fingers also lose a lot of heat as they have a large surface area in relation to their volume. In addition, the extremities will not be prioritised by the body when its core temperature is about to diminish. The body will re-direct warm blood to vital organs and blood flow to the capillaries in the extremities and to the ears, nose and genitals will be considerably reduced. Women tend to freeze more than men in their extremities.



The head and neck are the parts of the body that lose the most heat. In other words, these are vitally important parts of the body in terms of both the ventilation of surplus heat (bare head, unbuttoned neck) as well as the conservation of body heat (caps and balaclavas).

When you go indoors or in a heated tent/vehicle, make sure to open up your uniform and loosen or even take off shoes in order to ventilate excess moisture and also for your body to calibrate to the current temperature in your environment. When you know your activity level will rise (going on a march or other energy intensive activity) make sure to take off the middle layers in order to avoid excess heat and sweat. This will help your body to keep the heat when your activity level eventually drops and you need an extra layer to keep warm. This is essential to preserve combat readiness in cold weather.